Corporate Social Responsibility Culture and International M&As

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Abstract

We examine the role of corporate culture in M&As by utilizing a unique corporate social responsibility (CSR) dataset, providing in-depth information on multiple dimensions of organizational culture in 22 developed markets. In accordance with the prediction of the culture clash theory, a wider divergence between the CSR corporate cultures of the acquiring and target firms is associated with lower acquirer announcement and long-run returns as well as synergistic gains for the combined firm. Cultural misalignment also increases the time required to finalise a deal, reduces the likelihood of deal completion and the percentage of stock payment. Our results are robust to alternative explanations (e.g., similarities in national culture, acquirer CSR performance, institutional configurations), different regression specifications, and additional cultural misalignment measures. Our findings highlight the importance of the need for a deeper understanding of the role of CSR for the target selection process, integration planning, and financing choice of M&As to corporations and their investors.

Keywords: Mergers and Acquisitions; Corporate Culture; Corporate Social Responsibility; Post-merger integration; Acquisition Gains; Synergy

JEL Classification: G14, G34, M14

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1. Introduction

The fact that corporations are highly susceptible to destroying shareholder value through merger and acquisition (M&A) investments is among the most well-documented empirical observations in the corporate finance literature.[2] Though the success of an M&A deal is ultimately contingent on the synergistic gain attained by the combination of two companies, it has been argued that inadequate post-merger integration is responsible for a large part of the value erosion observed in M&A deals (e.g., Hoberg & Phillips 2017). Accordingly, Shrivastava (1986), Datta (1991), Cartwright and Cooper (1993), Van den Steen (2010a) highlight the pivotal role of corporate cultures in post-merger integration and M&A success. Indeed, McGee *et al.* (2015) document in a survey of top executives, that 76% of respondents seem to regard cultural compatibility as a key determinant of the post-merger integration's success.[3] Anecdotal evidence suggests that poor assimilation of corporate cultures may have caused high-profile M&A failures such as Sprint-Nextel, MCI-WorldCom, AOL-Time Warner, Quaker-Snapple, or Daimler-Chrysler mergers. Similarly, cultural fit has been quoted as a potential challenge in completed and proposed deals such as Broadcom-Qualcomm, Amazon-Whole Foods, Disney-Fox and CVS-Aetna (FT, 2018).[4]

Given the importance of organisational and cultural fit in M&As and their impact on post-acquisition integration, two conflicting theories have been put forward in the management literature on the nature of the relationship between cultural divergence and M&A outcomes. The *culture clash hypothesis* predicts that cultural misalignment impedes the integration process, thus hampering the realisation of acquisition benefits (Buono *et al.* 1985; Jemison &

[2] See for example Mueller (1997); Andrade *et al.* (2001); Campa and Hernando (2004); Damodaran (2005); Moeller *et al.* (2005); Boston Consulting Group (2007); Betton *et al.* (2008); Alexandridis *et al.* (2017), among others.

[3] Cultural disparity among merging firms has been linked to higher agency costs (Van den Steen 2010a), loss of trust and polarisation of management teams (Shrivastava 1986; Datta 1991), and loss of valuable employees (Cartwright & Cooper 1993), all of which can impede the post-acquisition integration process.

[4] Financial Times, Culture clashes loom after a rush of company mergers, July 2018

Sitkin 1986; Cartwright & Cooper 1993; David & Singh 1994; Buono & Bowditch 2003). Conversely, the *culture synergy hypothesis* posits that culture differentials offer an opportunity for resource and knowledge transfer which can, in turn, facilitate learning and value creation (Barkema & Vermeulen 1998; Bresman *et al.* 1999; Vermeulen & Barkema 2001; Björkman *et al.* 2007; Sarala & Vaara 2010). The extant literature has emphasised that cultural disparity can be associated with synergistic gains from capability transfer and shortfalls arising from integration complexity (e.g., Shenkar 2001; Björkman *et al.* 2007; Stahl & Tung 2015).

Corporate social responsibility (CSR), which encapsulates many crucial aspects of corporate culture from employee relations to stakeholder management and from environmental corporate practices to board decision making, has become ever more important in recent decades (Biehl *et al.* 2012; Hoepner & Wilson 2012). Since 2001, the best rated CSR firms have been bundled and celebrated in two major indices: the Dow Jones Sustainability Index and FTSE4Good. Unsurprisingly, this increasing relevance of CSR has resulted in a wealth of academic studies finding CSR to impact earnings and valuations (Gregory *et al.* 2016; Brooks & Oikonomou 2018), asset prices (Liesen *et al.* 2017), risk (Benlemlih & Girerd-Potin 2017), bank loan financing (Hoepner *et al.* 2016) and even auditor behaviour (LópezPuertas-Lamy *et al.* 2017).

There has been rising importance of corporate social responsibility behaviour in corporate culture. A firm's CSR policies are largely driven by stakeholders' preferences (Bénabou & Tirole 2010) as firms regularly communicate their business vision and values to their stakeholders by disclosing their CSR practices. Hence, a firm's CSR codes reflect the shared beliefs and values within a company and represent a crucial part of the wider corporate culture (e.g., Hoi *et al.* 2013; Gao *et al.* 2014). As a firm's CSR behaviour is embedded in its corporate culture which drives its business value, differences in firms' CSR policies can reflect the differences in their stakeholders' demand. Hence firms with better cultural similarity with

respect to their CSR standards are likely to have reduced integration cost when merging different stakeholders in the post-deal stage (Bereskin *et al.* 2018). In this paper, we study the impact of corporate cultural distance as reflected in their CSR practices, namely corporate social responsibility cultural divergence (*CSRCD* henceforth), on merger success and deal outcomes.

A number of empirical studies have examined how different corporate culture aspects in M&As can affect their success and the performance of firms involved and report mixed findings. Many of these are based on surveys of top executives own ex-post views on their firms' cultural compatibility around a deal announcement or consummation. (Datta 1991; Chatterjee *et al.* 1992; Weber *et al.* 1996; Very *et al.* 1997; Larsson & Risberg 1998). Such surveys are, however, highly subjective and can hence be largely biased (Cancialosi 2017). Guidi *et al.* (2020) examine the negative value impact of a specific form of merging pairs, which acquirers from non-sin industries purchasing targets from sin industries, and document the market disapproval effect due to misalignment in ethics. In recent studies, scholars have investigated the implications of bidder CSR ratings (Bargeron *et al.* 2015; Arouri *et al.* 2019) and target CSR ratings (Aktas *et al.* 2011a; Tampakoudis & Anagnostopoulou 2020; Tong *et al.* 2020). Only two papers to date focus on the actual cultural fit between the bidder and the target, presumably because data availability on both parties in an M&A deal is often limited to U.S. firms. Tremblay (2018) text mines 10k statements and finds greater cultural distances to positively affect short term abnormal stock returns, which is consistent with the *culture synergy hypothesis*. In contrast, Bereskin *et al.* (2018) find that cultural distance negatively affects announcements returns, consistent with the *culture clash hypothesis*. They use CSR data from the KLD database which has the longest CSR data history in the US but no relevant international data.

To the best of our knowledge, no single study has investigated to date, if the cultural distance between bidder and target matters within an international sample of M&As. This research gap may be due to data availability, as 10k data history is only available in the US and most CSR rating agencies have regionally focused data histories. Another possible reason for this research gap, however, could be the complexity of the research setting as "national cultural differences are likely to be as important in cross-border deals as corporate cultural differences" Bereskin *et al.* (2018). Nevertheless, we have access to an international data source of CSR ratings and are confident that our analysis can fill this research gap of the effects of corporate cultural distances on M&A performance controlling for national cultural distance whose effects are itself debated in the literature.[5]

Consequently, our study investigates the relationship between corporate cultural divergence (as proxied by multidimensional differences in CSR between bidder and target firms) and M&A outcomes in an international setting by utilising a unique, comprehensive dataset provided by EIRIS - an independent, non-for-profit organization with many years of experience in assessing CSR performance. The dataset collated by EIRIS includes detailed analysts' assessment for more than 300 individual inquiries (items of interest) for firms listed on the FTSE All World Developed Index, encapsulating multiple corporate culture dimensions including governance, employees, community, products and customers. We argue that this level of data granularity along with the wide-ranging coverage in cultural aspects allows us to derive comprehensive measures of corporate culture which offers significant advantages over more traditional measures based on alternative sources of CSR/corporate culture information. The international coverage of the dataset also allows for a greater culture heterogeneity in our

[5] The literature on the effect of national cultural distance on M&A performance and outcomes has seen mixed results. Datta and Puia (1995), Reus and Lamont (2009) and Ahern *et al.* (2015) find that national cultural distance can hinder M&A value creation and merger activity (Siganos & Tabner 2020), while Shane (1992), Hofstede (1980), Chakrabarti *et al.* (2009), Steigner and Sutton (2011), Morosini *et al.* (1998) provide evidence in support of cultural synergies and learning.

sample and a more direct examination of the marginal effect of corporate culture - over and above national culture - on M&A outcomes.

More specifically, our study examines the impact of CSR cultural divergence between acquiring and target firms in 22 developed countries - computed by taking into account the firms individual culture scores measured by different CSR dimensions - on a number of important aspects of M&A outcomes such as the probability of deal completion, acquiring firm performance and synergistic gains. In addition, we shed light on the effects of cultural compatibility on other M&A attributes such as the form of financing and the relative bargaining power of the acquirer which have not previously been subject to investigation. In accordance with the conjecture that the market expects cultural clashes to impede post-merger integration and the realisation of potential synergies, we find a negative, economically and statistically significant relationship between acquirer announcement returns and our *CSRCD*. Controlling for national cultural distance (differences in the broader culture of the environment where the firms are domiciled) as well as deal and firm characteristics, a one standard deviation increase in *CSRCD* reduces acquirer CARs by 1.5%, which translates to value destruction of $528 million for an average-size acquirer around the deal announcement – a truly sizeable effect. The expected synergistic gain of the deal is also lower by 1.9% for a one standard deviation increase in *CSRCD*. The differentials in acquisition performance induced by cultural divergence seem to persist in the long run with a monthly abnormal return for a High minus Low *CSRCD* portfolio of -1.2%, translating into a cumulative return differential of -28.87% over the initial 24-month post-acquisition period. Thus, the long-run results corroborate that initial market expectations about potential hurdles in integration and synergy realisation are credible.

We also find that cultural incompatibility reduces the probability of deal completion. A one standard deviation increase in *CSRCD* reduces the probability of deal completion by

10.5%, while it takes on average 52.3 more days for a deal in the large *CSRCD* group to be consummated. This suggests that cultural divergence begets significant negotiation frictions and/or other conflicts or challenges that the firms involved must overcome after they initially agree to the deal. Further, we document, for the first time, a significant association between the acquisition financing mode and organisational culture differentials. A more pronounced cultural misalignment comes with a lower likelihood for a deal to be financed with equity, potentially due to the reluctance of target firms to share the risks that the deal comes with and/or are unconvinced of its long-term prospects. In our last empirical session of the paper, we extend the study to further explore the heterogeneous effect of the three main subcomponents of CSR cultural divergence, namely Environmental (*CSRCD_E*), Social (*CSRCD_S*) and Governance (*CSRCD_G*). We find that the negative effect of cultural divergence on synergy returns is largely driven by firms' disparity in the social dimension, reflecting the integration complexity stem from this multifaceted notion which is less regulated and more subject to firms' individual management. While the more regulated environmental aspect is of less impact, the governance dimension exhibits a significant effect on the deal transaction process.

Our study contributes in several important ways to the international business and corporate finance literature. To the best of our knowledge, we present the first study on international M&As employing an all-encompassing measure of organisational cultural divergence derived from a unique source of highly granular CSR corporate culture data which establishes a formal link between organisational culture misalignments and the quality of inorganic corporate investment decisions. We provide novel evidence that the complexity associated with the integration of culturally divergent firms in international M&A investments is priced by the market and has a tangible impact not only on the synergistic potential of the deal, but also on the ability of acquiring firms to create value for their shareholders.

Second, our results suggest that, typically, the risks of cultural clashes for the post-acquisition implementation process (*culture clash hypothesis*) tend to outweigh any potential synergy gains from resource and knowledge transfer or organisational learning (*culture synergy hypothesis*). We hereby confirm the findings of Bereskin *et al.* (2018) in the US context and cannot support the findings of Tremblay's (2018) US data based working paper. Third, our findings contribute to the literature on the criteria utilised by business organisations and financial advisors as part of the M&A buy-side target selection process (e.g., Capron & Shen 2007; Chakrabarti & Mitchell 2013; Kaul & Wu 2016; Guo *et al.* 2019) by showing that cultural fit, such as with respect to their CSR practices, should be a key search and screen criterion. Fourth, our study yields significant implications for the literature on the ingredients of successful M&A integration (e.g., Shrivastava 1986; Larsson & Finkelstein 1999; Birkinshaw *et al.* 2000) since it highlights that this process should cater for the challenges of combining diverse corporate cultures in order to attain synergistic benefits. Lastly, our findings contribute to the literature on the M&A financing choice (e.g., Travlos 1987; Faccio & Masulis 2005; Boone *et al.* 2014) since it reveals a significant role of corporate cultural divergence as a determinant of the financing mode in the deals and, consequently, the capital structure of the firms involved.

The rest of the paper is organized as follows. Section 2 describes the data sample, the measures of CSR culture divergence, variable definitions and summary statistics. Section 3 presents our main empirical results and Section 4 discusses the robustness tests and sensitivity analysis. Finally, Section 5 concludes the paper.

2. Data and Sample Statistics

2.1 Data and Corporate Culture Measure

The data employed in this study to measure CSR corporate culture is from EIRIS. EIRIS is an independent, non-for-profit organization with over 25 years of experience in assessing CSR performance.[6] It does not offer any additional financial or legal advice to its clients, thus producing objective third party firm-level CSR ratings. EIRIS compiles more than 300 individual CSR assessments which are bundled in 80 more generic thematic areas for constituents of the FTSE All World Developed Index. It follows the FTSE All World Developed Index since it has been the inaugural data provider to the FTSE4Good Index series, which requires the assessment of all relevant companies within FTSE's universe. This in turn means that it is a very suitable data provider for a study of international M&As, since the FTSE universe covers all developed markets.

An EIRIS assessment of a company on a specific CSR criterion is based on research by several analysts with knowledge in the CSR topic area, the industrial sector and the home market of the company. The lead researcher for a specific assessment evaluates corporate reporting, relevant government documents, media reports, NGO commentary or other relevant third-party sources to arrive at an assessment, which is subsequently submitted to a senior researcher for approval. Upon approval, the assessment is shared pro bono with the relevant company including a questionnaire on which the company can provide structured feedback.[7] The data provided covers the period from 2003 to 2011, whereby a snapshot of the assessments was received on December 31st of each calendar year. Consequently, we can study M&A activities for the nine-year period of January 2004 to December 2012. We would have preferred to extend the EIRIS data further but the EIRIS Vigeo merger in October 2015 and especially the business separation between EIRIS and FTSE in September 2013 when FTSE moved to an

[6] In addition to Bereskin et al. (2018), other studies have shown that CSR characteristics provide an adequate reflection of shared beliefs and corporate culture (e.g., Hoi *et al.* 2013; Gao *et al.* 2014) which has been in turn shown to drive multiple aspects of firm's financing and investment performance (Renneboog *et al.* 2008; Aktas *et al.* 2011a; El Ghoul *et al.* 2011; Goss & Roberts 2011; Deng *et al.* 2013; Fatemi *et al.* 2015; Cellier *et al.* 2016).
[7] For more detailed descriptions of EIRIS data, please see Avetisyan and Hockerts (2017) or Hoepner *et al.* (2013). Other academic studies employing EIRIS data include Dam and Scholtens (2013) and Wu and Shen (2013).

in-house data provider imply that consistency in CSR assessment is not guaranteed. [8] That said, the financial data examined in our analysis stretches up to at least 2015 when we study the long run post-deal performance implications of CSR cultural distance for a period of up to 36 months post-deal.

A further advantage of EIRIS data is its comprehensive nature, capturing a number of different angles for each CSR theme, which allows us to correlate vectors of EIRIS assessment and thereby analyse the cultural similarity between corporations. This high degree of granularity provides tangible advantages over databases such as for instance MSCI KLD STATS which records scores at a more aggregate level.[9] Refinitiv's ASSET4 might appear as an alternative as is, like EIRIS, more granular than MSCI KLD STATS. However, ASSET4 has recently been found to be exposed to rather severe data inconsistencies with the same CSR assessment for the same firm at the same point in time differing depending on download data (Berg *et al.* 2020). Such data history rewriting is unsuitable for replicable academic research using CSR ratings.

Although the corporate culture dimensions covered by EIRIS are not necessarily exhaustive, they are representative of a number of important aspects, such as the company's treatment of its employees, customers, products and the environment as well as its broader corporate governance and ethics. In our research setting, such cultural dimensions are likely to be significant in assessing potential challenges around M&A integration.

[8] FTSE ended its relationship with EIRIS in September 2013 https://www.corporateregister.com/news/item/?n=534.
In October 2015, EIRIS announced its merger with French CSR research agency Vigeo and created Vigeo Eiris, which was acquired itself by Moody's in April 2019. However, any potential changes in methodology following the Vigeo merger and the Moody's acquisition fall outside the timeframe for which EIRIS data is available to us and hence does not influence the consistency of our analysis.
https://www.internationalinvestment.net/internationalinvestment/news/3722208/esg-research-agencies-vigeo-eiris-merge
https://www.ipe.com/moodys-takes-majority-stake-in-esg-assessment-provider-vigeo-eiris/10030650.article

[9] The MSCI KLD STATS database has been commonly utilized in past empirical research on the links between CSR and finance. The database offers to the end user a series of binary indicators referring to qualitative business issues of interest. Though it is a historically highly useful source of CSR data, the spectrum of activities and issues it captures is not as rich compared to the plethora of CSR dimensions covered by EIRIS.

The sample of mergers and acquisitions is from the Thomson Reuters SDC and satisfies the following restrictions:

1. The deals were announced between January 1, 2004, and December 31, 2012.[10]
2. Both the acquirer and target are publicly listed and are from the set of developed markets as covered in the EIRIS database which is necessary due to corporate culture data availability.
3. The status of the deal is completed or withdrawn.
4. The deal value is at least $1 million.
5. The percentage of shares of the target that the acquirer held at the announcement is less than 50%, while it seeks to own more than 50% after the deal completion (i.e., involve a change of control)[11].
6. Transactions labelled as minority stake purchases, acquisitions of remaining interest, privatizations, spinoffs, recapitalizations, self-tenders, exchange offers or repurchases are excluded.
7. Intra-corporate deals where the acquirer and target are the same company or have the same parent company are excluded.
8. Since the study is focused on the impact of cultural divergence among acquiring and target companies, we require that culture data is available for both firms in order for a deal to be included in the final sample. We follow a manual process to painstakingly match acquirers and targets to year-end culture data from EIRIS prior to the year of the acquisition announcement.
9. Financial data for acquirers and targets must be available in Thomson Reuters Datastream.

[10] There are two reasons for this: i) Corporate culture data is available between 2003 and 2011. We match culture data recorded in year t-1 to acquirers and targets associated with deals announced in year t and ii) We require at least three years of realized returns to be available for the long-run performance analysis section of our study.
[11] Our results remain robust under the alternative threshold of 90% of acquirer's ownership in the target firm, instead of 50%, after deal completion.

Based on the deal filtering criteria 1-7 above, we obtain 4,617 deals from the SDC M&A database. From these, there are 1,420 deals in which acquirers have valid CSR culture data matched from EIRIS in the year before deal announcement. However, there are only 406 targets with available CSR culture data. Evidently, our sample size is restricted by the fact that we require both the acquirer and target culture data to be available for each deal, while targets generally are less established and have lower CSR coverage. With the further requirement of having financial data available from Datastream, we yield a final sample of 220 domestic and cross-border deals (involving 440 acquirers and targets) from 22 developed markets: Australia, Austria, Belgium, Canada, Finland, France, Germany, Greece, Hong Kong, Republic of Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Singapore, Spain, Sweden, Switzerland, United Kingdom, and the United States of America.[12]

We bundle EIRIS inquiries for our sample firms into seven distinct categories capturing different aspects/angles of corporate culture: Corporate governance, employees, products and customers, community, environment, controversial business issues, and ethics. *Corporate governance* comprises inquiries covering aspects such as board structure and practices, bribery and corruption, regulatory breaches and stakeholder accountability. *Employees* covers aspects such as equal opportunities, trade unions, employee participation, employee relations and training and development. *Products and customers* is linked to areas such as supply chain standards, advertising complaints and the social impact of products and services. *Community* category covers commitment to community, indigenous rights, and third world involvement, among others. The *environment* category incorporates areas such as environmental management and impact and product stewardship, among others. *Controversial business issues* include aspects such as animal testing, nuclear involvement, alcohol, tobacco and military products. Finally, *Ethics* includes issues related to human rights policies and codes of ethics. Summary statistics for EIRIS inquiries are presented in Appendix B.

[12] Around 60% of the sample involves U.S and U.K targets while 35% of the sample involves cross-border deals.

We utilise a scale from zero to one when assigning a score to each inquiry data point with one denoting the highest cultural score and zero the lowest. For binary inquiries data (e.g., Yes/No), the assessment indicating superior corporate culture is assigned a score of 1, and its counterpart a score of 0. For categorical inquiry assessments (e.g., Basic, Intermediate, Advanced), outputs within the range [0,1] are split in equal intervals, with the assessment results that correspond to better corporate culture being assigned scores closer to one. For the remaining inquiries with a discrete number of outputs (e.g., What is the total amount donated by the company in the last year), we assign a cultural score within the range [0,1] based on the percentile ranking of a particular output relative to all other results for the same inquiry in the sample. For each firm, we then compute scores for each of the 7 categories by taking the mean of individual inquiry scores in each category. We then estimate the corporate social responsibility cultural divergence (*CSRCD*) between the acquiring and target firms in each deal by taking the Euclidean distance of the categorical CSR cultural scores between the two firms as follows:

$$CSRCD = \frac{\sqrt{\sum_{i=1}^{7}(S_{A,i} - S_{T,i})^2}}{7} \qquad \in [0,1] \tag{1}$$

where:

$S_{A,i} = mean\ inquiry\ score\ of\ acquirer\ in\ category\ i$

$S_{T,i} = mean\ inquiry\ score\ of\ target\ in\ category\ i$

In the robustness section we compute two alternative variations of *CSRCD* (*CSRCD_Alternative 1* and *CSRCD_Alternative 2*) for robustness. We also estimate the correlation between the entire set of common inquiry outputs between the acquirer and target firm and derive an additional measure of cultural divergence as follows:

$$CSRCD\_Alternative\ 3 = 1 - \left|Corr_{A,T}\right| \qquad \in [0,1] \tag{2}$$

This measure utilizes fully the data granularity of the EIRIS dataset and could not be computed based on other CSR databases as they provide scores at more aggregate levels. For

more information on the methodological design and computation of the CSR cultural divergence variables see Appendix B.

2.2 Descriptive Statistics

Table 1 presents information on the deal frequency per country (Panel A) and year (Panel B) for our sample. Our sample firms are from 22 countries with the majority of deals involving U.S., U.K., Australian, Japanese and Canadian targets, which altogether comprise almost 90% of the total. Deals are quite evenly distributed within the sample period but with years 2005-07 displaying heightened activity, which drops thereafter, consistent with fluctuations in global M&A activity waves and economic conditions.

[Insert Table 1 here]

Table 2 presents descriptive statistics for the overall sample as well as for large and small *CSRCD* subsets where deals with *CSRCD* larger or equal to (below) the sample median are classified as Large (Small) *CSRCD* deals.[13] Detailed variable definitions are reported in Appendix A. The table reports the number of observations, mean and standard deviation for each variable. The last column asterisks denote the statistical significance of mean difference tests between the large and small *CSRCD* sub-samples.

[Insert Table 2 here]

Panel A presents the summary statistics for acquirer characteristics. Among all variables, only acquirer size seems to vary significantly among large and small *CSRCD* deals. More specifically, large *CSRCD* deals are more likely to involve larger acquirers. This is consistent with the view that hubristic behaviour among the top management is more of a problem for larger acquiring firms (Moeller *et al.* 2004), which can in turn result in overlooking or ignoring the hurdles associated with cultural misalignment. Deal characteristics are reported in Panel B.

[13] Although we employ this as our primary classification in order to effectively utilise the entire sample, we test alternative specifications for robustness checks and our results remain unchanged.

There are more domestic small *CSRCD* deals, which is not surprising since firms from the same country are more likely to operate within the same social and cultural environment and hence have similar business cultures. The same pattern is observed for industry compatibility (*Same industry*). In addition, the financing mode of large *CSRCD* deals involves more cash and less stock, which is consistent with the conjecture that in such deals target firm shareholders are less prone to investing in the combined firm given the integration complexity involved.

Further, small *CSRCD* is also associated with lower national cultural divergence (HofstedeDist) which is measured by the Cartesian distance in the four Hofstede dimensions between the acquirer and target nations, following Kogut and Singh (1988) and Hofstede (2001). The four orthogonal national cultural dimensions are power distance, individualism, masculinity and uncertainty avoidance. We choose to use this Hofstede measure as our proxy for national culture as it is by far the most established measure of national cultural distance in terms of acceptability in the literature.[14]

Panel C shows the summary statistics for variables linked to different dimensions of a deal's outcome. The univariate comparison here shows that large *CSRCD* deals tend to have lower acquirer announcement returns, lower expected synergy gains, and lower probability of deal completion. Overall, these preliminary statistics seem to be consistent with the conjecture that *CSRCD* is an important factor in explaining deal outcomes and that M&A deals that involve more culturally aligned firms are more likely to create (or preserve) value for shareholders.

3. Empirical Results

[14] We also have performed the robustness tests with alternative national cultural distance measure constructed using data from the World Value Survey, and our results remain valid.

3.1. Acquirer Announcement CARs

To study the wealth effect of CSR cultural divergence on acquiring firms, we utilise a measure of acquirer cumulative abnormal return (CAR) over an 11-day window (-5, +5) around the acquisition announcement. This is estimated using the market model over a 210-day period (-300, -91) prior to the deal announcement[15]. To control for differentials in deal characteristics reported in Table 2 we employ an OLS regression where the dependent variable is the acquirer CAR. The key independent variable of interest is *CSRCD* while we also control for the following firm and deal characteristics which have been found to influence acquisition gains in the literature: 1) Acquirer size (*SIZE*) to control for the negative effect of acquirer size on acquirer announcement returns pointed out by Moeller *et al.* (2004); 2) The market-to-book ratio (*MTB*) following Dong *et al.* (2006) finding that acquirers with higher market-to-book ratios have lower announcement returns; 3) The acquirer's leverage (*LEVERAGE*) to control for its positive impact on bidder's returns as reported in Maloney *et al.* (1993); 4) The acquirer's cash-to-assets (*CASH*) ratio to account for the potential free-cash-flow and overinvestment effect (Jensen 1986); 5) The acquirer's run-up (*ARUNUP*), measured by the market adjusted buy-and-hold return of the acquirer's stock over a (-205, -6) window, to capture its negative effect on bidder's gains reported by Rosen (2006); 6) Serial acquirers (*SERIAL*), indicating the number of deals that the acquirer has completed in the past three years, to control for acquirers with previous acquisition experiences being subject to higher (under the "Learning" hypothesis) or lower (under "CEO overconfidence and over-investment" hypotheses) acquirer CARs (Fuller *et al.* 2002; Aktas *et al.* 2011b); 7) The deal relative size (*RELSIZE*) to account for larger deals being subject to lower abnormal acquirer returns (Alexandridis *et al.* 2013); 8) A dummy variable capturing the occurrence of tender offer

[15] Our results are robust under the alternative event windows of (-1, +1), (-2, +2), (-10, +10) of acquirer CAR around deal announcement. Detailed test results are available upon request.

(*TENDER*) (Bhagat *et al.* 2005); 9) The acquiring firm's toehold (*TOEHOLD*) to control for the bargaining power and uncertainty avoidance effects (Officer 2003); 10) An indicator variable capturing the occurrence of a domestic deal (*DOMESTIC*) following the evidence in (Goergen & Renneboog 2004; Moeller & Schlingemann 2005); 11) An intra-industry indicator (*SAME INDUSTRY*) controlling for the effect of the acquirer and target being from the same industry (Morck *et al.* 1990); 12) An all cash payment dummy (*ALLCASH*) to control for the financing method (Travlos 1987; Martynova & Renneboog 2011); 13) A deal attitude indicator (*HOSTILE*) since studies such as (Schwert 2000) show that acquirers earn lower abnormal returns in hostile deals; 14) Last and most importantly, we control for National cultural distance (*HofstedeDist*), to assess the impact of national cultural difference on acquirer announcement returns (Datta & Puia 1995). We also control for year and industry (using the Fama French 12 industry classification) fixed effects (*FIXED EFFECTS*). For more detailed descriptions of these variables see Appendix A.

Results are reported in Table 3. In specification 1 we include only *CSRCD* in a univariate framework and then we add control variables gradually in columns 2-4. In all four regressions, the coefficients of cultural divergence are negative and significant at least at the 5% level which suggests that larger *CSRCD* between acquirers and targets is associated with lower acquirer CARs. The impact of *CSRCD* is economically significant. In the complete model (regression 4), a one standard deviation increase in *CSRCD* is associated with a 1.5% decrease in acquirer CARs. Further, in regression 1, the adjusted R^2 of *CSRCD* alone is 2% indicating that the standalone explanatory power of *CSRCD* is considerable.

[Insert Table 3 here]

Given the premium involved, it seems that the market's perception of the deal's value creation potential becomes more negative as *CSRCD* increases. This can be linked to the heightened integration complexity associated with high *CSRCD* deals, in accordance with the

cultural clash theory. Consequently, the M&A buy-side process must cater to the complexities associated with corporate culture misalignments and create a detailed plan on how the combination of different business cultures can deliver value for acquiring shareholders.

3.2. Synergy Gains

We next study the implications of cultural divergence between acquiring and target firms involved in M&As for the deals' anticipated synergistic benefits. If business culture misalignments can exacerbate complexity in post-acquisition integration, then they could impair the realisation of the expected synergy gain. This would be initially reflected on market expectations about the synergistic potential of a deal. We measure synergy gains by the market value-weighted average of the acquirer and target CAR (VWCAR) estimated in the 11-day[16]

Table 4 reports the results of the OLS regressions where the dependent variable is the synergy gain VWCAR and the key independent variable of interest is *CSRCD*. In all the regressions, the coefficients of CSR cultural distance are negative and significant at the 1% level while *CSRCD* alone contributes almost 6% to the adjusted R-squared. In regression 4, a one standard deviation increase in *CSRCD* reduces the synergy gain by 1.9%. Hence, we show that CSR cultural divergence casts a significant negative impact on synergy value, thus provide empirical evidence in support of the *cultural clash hypothesis* that we discussed in section 1[17].

Another notable result from this regression set is that national cultural distance (*HofstedeDist*) does not seem to have additional explanatory power over and above *CSRCD*. Consistent with the survey-based findings of Pothukuchi *et al.* (2002) who show that the effect

[16] Our results are robust under the alternative event windows of (-1, +1), (-2, +2), (-10, +10) of VWCAR around deal announcement. Detailed test results are available upon request.

[17] In untabulated test, we examine the interaction effect of *CSRCD* with the relative superiority of acquirer's and target's CSR standard. We find insignificant effect on this interaction term, while the coefficient of *CSRCD* remains to be significantly negative. This result provides additional evidence in support of the *culture clash hypothesis* for the greater integration complexity risen from the misalignment of acquirer's and target's culture, instead of the competing *culture synergy hypothesis*, as we do not find evidence of learning and capability transfer benefits in synergy value creation when acquirers purchase targets with better CSR standards. Detailed test results are available upon request.

of cultural distance on the performance of international joint ventures stems more from the cultural differential at the organization level rather than at the national level, we here demonstrate that it is the corporate level cultural distance that drives the significant impact on M&A value outcomes. Our findings on the dominant significance of cultural distance at the company level offer a potential explanation to the inconclusive and often contradictory results that existing studies have yielded so far, where some (Datta & Puia 1995; Ahern *et al.* 2015) document detrimental effects of national cultural distance on cross-border M&A performance, while others (Morosini & Singh 1994; Chakrabarti *et al.* 2009) provide evidence to indicate a positive relationship.

[Insert Table 4 here]

The synergy findings are consistent with the conjecture that the market perceives cultural distance as an impediment to post-acquisition integration which can in turn hinder the realisation of expected synergy gains. The implications for the acquisition decision and implementation processes are significant. First, the buy-side target selection and due diligence stages should cater for the risks of CSR cultural misalignments in M&As and provide support for opposing deals that - due to cultural combination complexities - can potentially impede the realisation of projected synergy gains. Second, in the presence of tangible synergistic gains in deals where the CSR cultural disparity is large, the M&A implementation process should encompass a comprehensive plan of communications and assimilating systems, processes, and people during the integration process. Being meticulous about the integration strategy may mitigate many of the risks inherent in cultural clashes and allow organisations to utilise them to their benefit, further enhancing the gains from the combination.

3.3. Acquirer Bargaining Power

Other than re-pricing effects due to the arrival of new information about the value of an acquiring firm (e.g., in stock-for-stock deals), there are mainly two other potential reasons for

its market value to change around the deal announcement: the synergistic potential of the deal and the bargaining power of the acquirer. In the previous section, we reported evidence in favour of the synergy gain declining with CSR cultural divergence. An acquiring firm can transfer a large part of the synergy gain to target shareholders by overpaying for the deal. Accordingly, when a target firm opposes a deal due to a large cultural gap with the acquirer, if the latter is still willing to firmly pursue the deal, it will likely end up paying a large premium to entice the target firm's management and shareholders. In this section, we examine this bargaining power conjecture, by utilising a measure of the bidder's share of synergy (*BSOS*) following Golubov *et al.* (2012).

We first compute the dollar-denominated synergy gain (*SG*) as the sum of the bidder's and target's dollar-denominated gains, where dollar gain is the product of the market value of equity 4 weeks prior to the acquisition announcement and CAR (-5, +5) of the respective firm. BSOS is the bidder dollar denominated gain divided by *SG* when *SG* is positive, and (1-bidder dollar-denominated gain) divided by *SG* when *SG* is negative. In the OLS regressions, the key independent variable (*CSRCD)* and other controls are the same as in previous tests. Table 5 reports the results.

[Insert Table 5 here]

In regressions 1 and 2 the dependent variable is *BSOS*, while in regressions 3 and 4 it is the deal premium (defined as the 4-week premium over the market value of the target). In all four regressions the coefficients of *CSRCD* are statistically insignificant, and thus *CSRCD* has no significant impact on the share of synergies captured by the bidder, and the offer premium. This evidence suggests that corporate culture clashes between the firms involved in an M&A deal have no significant impact on the acquirer's bargaining power or overpayment likelihood. Collectively, one can interpret the findings as favourable to the synergy hypothesis – that the documented value destruction for acquiring firms in large *CSRCD* deals can be attributed to

the lower expected synergy gain these deals are associated with - rather than because acquirers forgo bargaining power when pursuing the deal.

3.4. Deal Completion Likelihood and Time

In Section 2 we reported that 26.4% of the deals in our sample are withdrawn. We can utilise this attribute to examine whether deals with larger *CSRCD* are subject to a higher likelihood of falling through. According to this conjecture, a wider business culture gap may introduce more frictions during the negotiation process or even become apparent later, thus deterring the firms involved from closing the deal and having a negative impact on the probability of deal completion. The dependent variable in columns 1 and 2 of Table 6 is a binary variable equal to one if the deal was eventually completed and zero otherwise. Column 1 reports the results from a logit regression of the deal completion probability on CSR cultural divergence. The coefficient of *CSRCD* is negative and statistically significant at the 5% level. A one standard deviation increase in *CSRCD* reduces the probability of deal completion by 10.5%. This result is consistently robust and statistically significant at the 1% level under the alternative probit model (column 2). A wider CSR cultural gap tends to induce a higher likelihood for a deal to be withdrawn - which supports our hypothesis.

[Insert Table 6 here]

Besides the probability of deal completion, *CSRCD* can also potentially impact the time to completion given our conjecture that cultural divergence can amplify negotiation frictions. This is based on the perception that differences in the firms' business conduct and how they tackle disagreements can have an impact on the deal settlement process. Columns 3 and 4 of Table 6 report results from Tobit regressions of the time to deal completion on cultural divergence. The dependent variable is *Completion Time*, which is defined as the number of calendar days between the deal announcement and the deal effective day as reported by Thomson Financial SDC. To cater for a more intuitive interpretation of the marginal impact of

CSRCD on the time to completion, in this setting we use a dummy variable equal to 1 for large *CSRCD* deals (above sample median) and zero otherwise as our key independent variable in column 4. We also include the same acquirer and deal control variables as with our other tests. The coefficients of *CSRCD* are positive and statistically significant, indicating that the time to completion of an M&A deal increases with cultural divergence. From column 4 of Table 6, we deduce that it takes on average 52.3 more days for a deal in the large *CSRCD* group to be completed compared to a deal in the small *CSRCD* group.

3.5. Deal Financing

Previous literature has suggested that target firms are less likely to accept the bidder's stock as a payment form when there is more information asymmetry about the value of the acquiring firm (Travlos 1987). This has been put forward as one reason why inter-industry deals tend to be paid more so in cash than equity (Huang *et al.* 2016). Similarly, other research has documented a home bias, where acquisition targets are less likely to accept stock swaps in cross-border M&A deals (French & Poterba 1991; Coval & Moskowitz 1999; Grinblatt & Keloharju 2001). Divergence in corporate culture can bring about post-acquisition integration complexity and as a result induce uncertainty among target firms about the prospect of delivering the planned synergies. If this is the case, target firms would be more reluctant to invest in the combined entity which would in turn make it less likely that they accept stock-swap bids.

We put this conjecture to test via Tobit and OLS regressions of the percentage payment by stock on *CSRCD* and other control variables. Table 7 reports the results. The coefficients of the *CSRCD* variable are all negative and statistically significant which shows that the percentage of stock in the payment method decreases with *CSRCD*. Based on the results from the OLS regression in column 5, a one standard deviation increase in *CSRCD* is associated with a 6% reduction in the percentage of stock payment. This confirms that cultural dissimilarities

between the firms involved in an M&A deal can introduce a larger degree of uncertainty or information asymmetry about the value of the combined firm and make it less likely that the target firm jumps in the bandwagon by accepting the acquirer's stock as M&A currency. To the best of our knowledge, this is the first study that establishes a link between corporate culture divergence and how M&As are financed and thus further contributes to this strand of the literature.

[Insert Table 7 here]

3.6. Acquirer Long-run Stock Performance

Our findings based on the short-run stock performance are consistent with the view that a large differential in CSR corporate cultures among acquiring and target firms in M&As is negatively perceived by the market and leads to lower announcement returns for acquirers and expected synergistic gains. Yet, to corroborate whether cultural divergence can in fact induce integration complexity and if the initial market signal is credible, it would be logical to focus more on the post-acquisition performance of acquiring firms.

To study the long-term impact of *CSRCD* on the value of the combined firm, we first examine the firm's stock performance in the post-deal period by adopting the calendar time portfolio regression method (CTPR) following previous studies (e.g., Mitchell & Stafford 2000; Moeller *et al.* 2004; Alexandridis *et al.* 2006; Duchin & Schmidt 2013) to circumvent the potential issue of cross-correlated abnormal returns and overstatement of test statistics as often suffered in the long-run event time methods such as CARs and BHARs, as pointed out by Kolari and Pynnönen (2010). Here for this CTPR test, we examine the sample of completed deals and use the monthly stock prices downloaded from Datastream. In each month, we compute portfolio returns for (i) a low *CSRCD* portfolio; (ii) a high *CSRCD* portfolio; and (iii) a high-minus-low *CSRCD* investment portfolio. The categorizations of low/high *CSRCD*

portfolio are set at bottom/top 20 percentile of the 162 completed sample deals.[18]. The portfolio weights are derived from the market value of acquiring firms 4 weeks prior to the deal announcement. Acquirers enter the portfolios on the effective month of the deal and remain for 12 to 36 months. Calendar portfolios are rebalanced each month to include firms that have just completed a takeover and to disregard the ones that have completed 12 to 36 months in the test period.

The calendar time portfolio regressions are based on the Carhart four-factor model as follows:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + S_p SMB_t + h_p HML_t + m_t MOM_t + e_{pt} \quad (3)$$

We run OLS regressions of the monthly excess portfolio returns after subtracting the risk-free rate on the Carhart four factors to obtain the abnormal return (alpha) as the intercepts from the regressions. Where, R_{mt} is the market return of the developed markets defined by Kenneth French's data library; R_{pt} is the calendar time portfolio return; R_{ft} is the U.S. one month T-bill rate at month t; SMB_t is the difference in returns of value-weighted portfolios of small firms and big firms during month t; HML_t is the return differential of value-weighted portfolios of high and low book-to-market ratio firms in month t; MOM_t is the momentum factor and it is the average return on the high prior return portfolios minus the average return on the low prior return portfolios. The factor data used in the regressions are downloaded from Kenneth French's data library for developed markets. α_p corresponds to the monthly excess portfolio return.

Table 8 presents the CTPR results for three different post-acquisition periods; 12 months, 24 months and 36 months respectively. The Low *CSRCD* portfolio yields consistently positive

[18] We have performed robustness checks with the re-estimation of our models by utilizing alternative sets of specifications for the "Low" and "High" *CSRCD* portfolios. Accordingly, we employ bottom/top 30th and 50th percentile thresholds on our completed deal sample when classifying low and high *CSRCD* deals and our main results remain similar.

and significant abnormal returns. In the first 2 years post-acquisition, the acquirer's monthly abnormal return is 1.14%, significant at the 5% level. Conversely, acquirers in the High *CSRCD* portfolio are subject to statistically insignificant alphas. To examine the relative performance between the two portfolios we run a CTPR regression where $R_{pt} - R_{ft}$ is replaced by $R_{High,t} - R_{Low,t}$. The monthly abnormal return for this High-minus-Low investment portfolio is negative for all three calendar time windows. In the first 2 years post-acquisition, the average monthly alpha is approximately -1.20%, significant at the 5% level, translating into a hefty return differential of -28.87% over the entire 2-year period. Similar patterns are observed for the 1- and 3-years post-acquisition abnormal returns. Our long-run performance findings provide evidence that the merging firms' cultural fit plays an instrumental role in the integration and long-term financial success of the combined business entity.

[Insert Table 8 here]

3.7. Long-run operating performance

To further test the long-run performance implication of CSR cultural divergence, we adopt another long-run value creation measure used in the M&A literature, namely the change in the combined firm operating profitability in the post-deal period. Following Golubov *et al.* (2020), the dependent variable is the change in return on asset (*Δ ROA*) of the combined firm in one, two and three years post-deal minus the combined asset-weighted-average return on assets of the acquirer and the target in the year prior to the deal. Table 9 presents the results of OLS regression analysis of the change in operating performance on cultural divergence (*CSRCD*) using the sample of completed deals.

We find that in all one, two and three years post-deal operating performance regressions, our key explanatory variable *CSRCD* is significantly negative. In columns 2 and 3, the coefficients of *CSRCD* are strongly negative at 5% of significance. This shows that a larger

pre-deal corporate cultural disparity between the acquirer and the target has a negative impact on the post-deal operating profitability of the combined firm. This result is consistent with our findings in the short-run analysis of deal synergy and provides evidence to show that corporate cultural distance posts additional integration complexity and hence results in a loss of post-deal profitability. This finding on the long-run operating performance is in line with our long-run stock performance test and demonstrates the negative impact of *CSRCD* on M&A value creation, consistent with our results from the short-run value test.

[Insert Table 9 here]

4. Robustness tests and sensitivity analysis

4.1. Heckman 2 stages selection model

Our results so far suggest that, among other things, CSR cultural divergence has a negative effect on the likelihood of deal completion (Table 6), and a negative impact on the combined CAR of the deal synergy measure around the deal announcement (Table 4). To address the potential sample selection bias coming from the merger completion, we first focus only on the sample of completed deals for the synergy test (column 1 of Appendix C1). We then adopt the two-stage Hackman selection model for a further robustness check, following the methodology used in Bereskin *et al.* (2018). In the first stage, we estimate a probit model of deal completion probability using all sample deals (i.e., same as in Table 6). Then, in the second stage we include the inverse Mills ratio from the first stage probit model as an additional explanatory variable in the VWCAR regression using completed deals. As shown in Appendix C1, the results are consistent with our baseline model reported in Table 4, and hence provide evidence to alleviate the potential selection bias concern in this regard.

4.2. Propensity Score Matching

To further address the potential endogeneity concerns related to the selection bias which the pre-deal characteristic of corporate cultural distance between acquirer and target may be non-random, we employ the propensity score matching technique to generate a matched sample of deals with high and low *CSRCD* which are balanced on the set of observable firm and deal characteristics.

Following earlier M&A literature using the propensity score matching technique (e.g., Eaton *et al.* 2019; Chung *et al.* 2020), we first run a probit model to estimate the propensity score of a deal with high CSR cultural distance, represented as *CSRCD_High*, which equals to one if a deal's *CSRCD* is larger than the sample median, and zero otherwise. The dependent variable for the probit model is *CSRCD_High*, and the explanatory variables include all the firm and deal characteristics we have controlled for in our main synergy test. We then use the estimated propensity scores to construct the matched sample using one-to-one nearest-neighbour matching without replacement. A calliper of 5% is applied in models 1 and 3, and a calliper of 2% is applied in models 2 and 4 respectively for robustness. In untabulated tests, we assess the difference in each independent variable used in this probit model and confirm that the covariate balance is achieved between the high and low *CSRCD* groups. We then use the matched sample to re-estimate the impact of *CSRCD* on synergy gains as in our main tests presented in section 3.

Appendix C2 reports the ordinary multivariate regression results for this robustness test based on the propensity score matched sample. Columns 1 and 2 report the impact of *CSRCD* on deal synergy gain, and columns 3 and 4 present the impact of *CSRCD_High* on synergy. All the results are shown to be consistent with our main tests, confirming that our findings on the impact of CSR cultural distance on deal synergy presented in section 3 are robust in this balanced sample and hence address the potential endogeneity concerns.

4.3. Alternative *CSRCD* measures

In this section, we perform additional robustness checks by examining different estimation settings for the CSR cultural divergence measures. In all our earlier tests, we use the Euclidean distance of CSR culture dimensions as our main proxy for cultural divergence (*CSRCD*). In order to test the robustness of our findings on the main deal synergy hypothesis, we also compute three alternative measures of *CSRCD*: 1) the absolute of the average categorical CSR cultural divergence (*CSRCD_Alternative 1*) which involves estimating the difference between acquirer's and target's categorical cultural scores for each of the seven major culture categories, and then taking the absolute average of those categorical differences; 2) the average of the absolute categorical CSR cultural distance (*CSRCD_Alternative 2*) which involves estimating the absolute categorical difference for each of the seven main culture categories, and then taking the arithmetic mean of those absolute categorical distances; 3) the CSR culture correlation (*CSRCD_Alternative 3*) which involves computing the correlation coefficient between the sets of inquiries for the acquirer and target firms, and then taking one minus the absolute of this correlation value. The latter measure utilizes fully the extensive data granularity of the EIRIS database instead of just using aggregate scores. All our CSR cultural divergence measures are scaled in the range of [0, 1] as with our main independent variable. More information on the construction of these alternative measures can be found in Appendix B. As reported in Appendix C3, our results on deal synergy based on these alternative measures are qualitatively similar to our baseline results, pointing to a negative role of CSR cultural divergence on M&A value outcome and providing support to the cultural clash hypothesis.

4.4. Country effects

One of the key advantages of our empirical design is the international nature of the study, which, to the best of our knowledge, is unique compared to previous relevant analyses. As reported in the sample statistics in Table 1, 37% of the deals in our sample are executed by U.S.

acquirers. To show that our results are not solely driven by U.S. deals as in previous studies such as Bereskin *et al.* (2018), we split the sample into the U.S and non-U.S. acquirers and re-run the synergy test. In Panel A of Appendix C4, we show that CSR cultural divergence has a significantly negative impact on deal synergy, for deals carried out by both U.S. and non-U.S. acquirers. In Panel B, we perform a further robustness check by including acquirer country fixed effects in the model, similar to Ahern *et al.* (2015). We demonstrate that the negative effect of CSR corporate cultural divergence on deal synergy is consistent and robust under the control of country effects, hence our findings are applicable to a wide scope of international M&A deals.

Another advantage of our empirical design using the international setting is that the well-balanced mixture of domestic deals (65%) and cross-border deals (35%) in our sample gives us the privilege to test if there is a differential impact of cultural divergence on synergy. In Appendix C5, we present the results of the impact of *CSRCD* on synergy returns while taking into account the effect of cross-border deal status. In column 3 of the table, we show that the interaction term of *CSRCD* with Cross-border is not statistically significant while controlling for all other firm and deal characteristics, and the key variable of interest *CSRCD* remains its strong negative effect. This result illustrates that cross-border deals have no significant differential effect of *CSRCD* on deal synergy. This is consistent with our finding in the main test that the explanation power of national cultural distance on deal synergy is dominated by the corporate level cultural distance. Hence, we show that it is really the firm-level cultural divergence, rather than the country level distance, that drives the valuation impact.

In light of a few recent international studies (e.g., Desender & Epure 2020; Surroca *et al.* 2020) that show the association between national institutional configurations and corporate social responsibility, we incorporate their classification methodology to further test if the acquirer and target firm's country-level institutional governance configuration would cast a

differential impact on our main synergy test[19]. Appendix C6 presents the robustness test results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) while taking into account of the effect of national institutional configuration. Countries are classified into Liberal Market Economies (LME) and Coordinated Market Economies (CME) following the institutional configuration grouping in Desender and Epure (2020) and Surroca *et al.* (2020). Liberal Market Economies have shareholder value and profitability as the primary corporate goal. In those markets, a firm's responsibility toward society is voluntary and the key stakeholders are shareholders. In contrast, Coordinated Market Economies have stakeholder value as their primary corporate goal, which firm's responsibility toward society is compulsory and key stakeholders include employees, banks and suppliers. To test the effect of acquirer target discrepancy in institutional configuration, we employ different acquirer and target institutional configuration combination specification in our models: acquirer is from CME (column 1 and 2); both acquirer and target are from CME (column 3 and 4); both acquirer and target are from LME (column 5 and 6); either acquirer or target is from CME (column 7 and 8). As presented in all the models, we do not find a significant effect of institutional configuration on synergy, either as an additional explanatory variable or as an interaction term with *CSRCD*, and meanwhile the effect of *CSRCD* on synergy remains negative with strong statistical significance consistent with our main test results in section 3. This result shows that acquirer target national institutional configuration, as a reflection of macro country level culture, has no significant impact on M&A deal synergy. This finding is consistent with our

[19] In untabulated tests, we also examine the incremental and interaction effect of acquirer firm level governance related features, including ownership (Institutional Ownership, Blockholder Ownership), board structure (Independent Board, Board Experience, Board Gender Diversity, CEO Duality) and CEO pay (CEO Pay link to share performance) with our key explanatory variable *CSRCD* on deal synergy. We find that these additional firm level governance factors do not cast a significant effect on synergy, while the negative impact of *CSRCD* on synergy remains statistically significant demonstrating the robustness of our main synergy test findings. Detailed test results are available upon request.

earlier results and provides additional evidence that it is the firm level cultural characteristics that drives the effect on deal synergy.

Also, given the international nature of our sample, we have the unique advantage of incorporating further acquirer target national distance measures for robustness check, in addition to national culture. Another key aspect of national characteristics concerning investment is the legal institutions of investor protection. Following earlier studies (e.g., La Porta et al. 2000; Defond & Hung 2004; DeFond et al. 2007), we incorporate acquirer target distances of investor protection measures as defined by Porta et al. (1998). Appendix C7 presents the robustness test results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) while taking into account the acquirer target distances in their investor protection features, including shareholder rights as measured by the antidirector rights (column 1), creditor rights (column 2), and law enforcement covering Efficiency of Judicial System, Corruption, Accounting Standards and Rule of Law (column 3). In column 4, the acquirer target distances in all three types of investor protection measures are comprehensively incorporated in the regression. As presented in all the models, the effect of *CSRCD* on synergy remains negative with strong statistical significance consistent with our main test results in section 3, while the effects of investor protection distance measures are minimal. This result is in line with our earlier findings and provides additional evidence illustrating the dominant effect of firm-level cultural distance on deal synergy. Overall, our findings demonstrate the relative importance of organizational level cultural distance over the national level distance in international M&A deals, consistent with the study by Pothukuchi *et al.* (2002) on international joint ventures.

4.5 Intertemporal Consistency Test

Furthermore, given the advantage of our international sample with deals span over nine years and across the entire period of the 2008 global financial crisis, we are able to test for the

intertemporal consistency of our results and examine if there is any heterogenous effect for the period before and after the crisis. Appendix C8 presents the results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) for the sub-periods of pre- and post- 2008 global financial crisis. In columns 1 and 2, the time threshold is the year 2008 around the start of the crisis as defined by the National Bureau of Economic Research. The subsamples represent deals announced in the pre-crisis period (2004-2007) and the post-crisis period (2008-2012) respectively. Meanwhile, for additional robustness check, we also define an alternative version of the crisis time threshold set as the year of 2009 around the end of the global crisis. Thus, in columns 3 and 4, the pre-crisis period is constructed for deals announced in 2004-2008, and the post-crisis period consists of deals announced in 2009-2012 respectively.

From the results presented in Appendix C8, we find that the negative effect of CSR cultural divergence (*CSRCD*) on deal synergy is statistically significant for both the pre- and post-crisis periods. Hence, we show that the synergy value destruction that stems from the acquirer target cultural disparity and consequently the post-integration difficulty is substantial over the entire sample period.

Nevertheless, we find that though the coefficients of *CSRCD* on synergy remain significantly negative for both pre- and post-crisis times, the magnitude of the *CSRCD* coefficient is smaller for the post-crisis period. This reduced negative effect seems to be in line with some earlier literature showing that the importance of CSR has increased over time (e.g., Ioannou & Serafeim 2015). Especially, firms with well-managed CSR performance experienced stronger resilience over the crisis period due to the higher level of trust and social capital (e.g., Lins *et al.* 2017, 2019). Hence, the importance of actively managing firms' CSR performance may start to become more evident for corporate managers and thus a disparity in acquirer's and target's CSR practices may draw greater attention for resolution in the post-crisis period.

4.6 Sensitivity test on acquirer's FTSE4Good inclusion

Given previous results on the influence of bidder's CSR ratings (Bargeron *et al.* 2015; Arouri *et al.* 2019) and the fact that our EIRIS data is the source of the FTSE4Good index during our sample period, we conduct a further sensitivity analysis by utilizing this unique advantage of our data and taking this additional feature of acquirer into consideration. Specifically, we investigate whether a bidder having higher CSR performance (i.e., being an FTSE4Good constituent) has an impact on value creation and deal characteristics – on top of the impact of *CSRCD* which we have previously shown.

Appendix C9 presents the regression results of our main value creation and deal characteristic tests with the inclusion of the acquirer's FTSE4Good constituent status. The variable FTSE4Good Constituent is a dummy variable that equals to one if the acquirer is a constituent firm of the FTSE4Good index in the year prior to the deal announcement, and zero

With the additional control of acquirer's CSR standard, proxied by acquirer's status of whether being an FTSE4Good index constituent firm, our key variable of interest *CSRCD* retains its significant negative impact on acquirer CARs, synergy value, deal completion probability the percentage of stock payment used to finance the deal. The results from these sensitivity tests demonstrate that the impact of acquirer and target cultural distance on wealth creation and deal characteristics is robust irrespective of the acquirer's CSR performance[20].

4.7 Sensitivity test on decomposing CSR cultural divergence

Given the compound notion of CSR corporate culture and the rich range of data that we have available from EIRIS, we are privileged to be able to go one step further to decompose

[20] In untabulated tests, we also perform additional sensitivity analysis while incorporating acquirer's board structure and CEO pay as additional controls, including Independent Board, Board Experience, Board Gender Diversity, CEO Duality, and CEO pay link to share performance. We find that the negative effect of *CSRCD* on acquirer CAR, synergy, deal completion probability and percentage of stock as method of payment remains to be statistically significant. Hence, we illustrate that the impact of acquirer target CSR cultural divergence on wealth creation and deal characteristics that we report in section 3 is robust under the consideration of additional firm-level governance features. Detailed test results are available upon request.

the aggregate measure of CSR cultural divergence (*CSRCD*) into multiple subcategories and hence to separately test the impact led by each dimension. Following the common methodology in the CSR literature, we decompose *CSRCD* into the three subcategories, namely Environmental (*CSRCD_E*), Social (*CSRCD_S*) and Governance (*CSRCD_G*). Each component of *CSRCD* represents the divergence between the acquirer and the target in that dimension and include all the EIRIS culture data that we have available under that component. *CSRCD_E* include all the cultural data related to firms' environmental practices. *CSRCD_S* incorporate firms' multiple attributes related to social practice and attitude, including ethics, community, employees, treatment of products and customers, and controversial business issues. *CSRCD_G* covers all the corporate governance features. With this decomposition, we are able to add additional analysis into our study and to examine the differential impact of the various dimensions on the main test of deal synergy.

Appendix C10 presents the results of OLS regressions of synergy gains on the three subcomponents of *CSRCD*. Out of the three key dimensions, the coefficient of *CSRCD_S* in column 2 is strongly negative at 1% significance. The coefficient of *CSRCD_G* shows some sign of negative impact on synergy though not statistically significant. The effect of *CSRCD_E* is insignificant. Hence, we find that the strongest impact of CSR cultural divergence on deal synergy seems to be stem from the social aspect of the notion.

As discussed in the existing literature, cultural disparity among merging firms has been linked to higher agency costs (Van den Steen 2010a), loss of trust (Shrivastava 1986; Datta 1991), and loss of valuable employees (Cartwright & Cooper 1993), all of which can impede the post-acquisition integration process and many are closely related to the social elements of the corporate culture, such as business ethics and the treatment of key stakeholders including employees and customers. Hence, our finding offers the direct empirical evidence that acquirer target misalignment in social practices could post a tough barrier in the post-deal business

integration and cause clashes in the combined operation, and thus impairs the synergy value creation.

In untabulated tests, we find that though the corporate governance component (*CSRCD_G*) does not carry a significant effect on announcement returns, potentially lead by the confounding effect of integration complexity offsetting with the possible gains such as from the value of control as pointed out by earlier studies (e.g., Wang & Xie 2008), this dimension seems to cast a significant negative effect on the deal transaction process. We find that *CSRCD_G* significantly reduces the likelihood of deal completion and meanwhile increases the time taken to close a deal if completed. This reflects amplified negotiation friction caused by the disparity between acquirer and target in their corporate governance practices which a greater effort would be required between the two management teams to resolve issues in settling a deal. Also, we find that *CSRCD_G* reduces the percentage of deal payment made by stock, suggesting that a larger disparity in firms' corporate governance practices introduces additional information asymmetry between the merging firms. Thus, with reduced trust, targets seem to be less willing to accept the acquirer's stock as M&A currency. In the tests of the environmental component (*CSRCD_E*), we find an insignificant effect on valuation and deal transaction characteristics. This could be due to the fact that environmental factors are usually more regulated and hence a disparity in this dimension could potentially be better addressed in the integration stage with appropriate effort under regulatory guidelines. Altogether, our study on the subcomponents of CSR cultural divergence encourages future research to further explore the different natures of environmental, social and governance characteristics and how would they each individually impact on M&A deals.

5. Conclusion

This study examines the impact of organizational culture on M&A outcomes utilising for the first time in an international setting a measure of CSR corporate cultural divergence between acquiring and target firms while controlling for national cultural differences. The measure of corporate cultural divergence is computed based on a comprehensive CSR dataset from EIRIS covering 22 developed markets. Our key finding is that CSR cultural divergence between the acquirer and target firms is inversely related to acquiring firm announcement and long-run returns as well as with the synergistic M&A gains. This finding is both statistically and economically significant and it is consistent with the cultural clash hypothesis on M&A integration. It suggests that business culture misalignments can exacerbate integration complexity and the value creation potential for the combined firm.

Moreover, our results show that CSR culture divergence has an impact on deal characteristics. Along these lines, the more pronounced cultural mismatch is associated with a higher likelihood of the deal falling through and a longer time to completion, which points to cultural differentials inducing frictions between the two firms and other hurdles during the final negotiation stage. In addition, cultural divergence is negatively related to stock-swap financing, as firms in this case have an incentive to curtail the information asymmetry problem.

Overall, our results suggest that M&A investment and financing decisions should carefully consider the impact of CSR cultural differences on M&A outcomes and shareholder wealth, and corporations should plan how to effectively manage cultural mismatches during the integration stage.

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Table 1.

Sample Descriptive Statistics

The sample of M&As is from SDC and includes 220 completed and withdrawn deals from 22 developed markets covered in the EIRIS culture dataset. It includes completed and withdrawn deals announced between 2004 and 2012. Acquirers and targets are publicly listed firms and deals are domestic or cross-border, with a deal value of at least $1mil. The acquirer holds less than 50% of the shares of the target prior to the acquisition announcement and seeks to end up with more than 50% after the deal. Minority stake purchases, acquisitions of remaining interest, privatizations, spinoffs, recapitalizations, self-tenders, exchange offers, and repurchases are excluded. Intra-corporate deals where the acquirer and target are the same company or have the same parent company are excluded. Panel A shows the distribution firms by nation and Panel B the number of deals per year in our sample period.

Panel A: Sample distribution by Acquirer and Target Nations		
Country	**# Acquirers**	**# Targets**
Australia (AS)	12	14
Austria (AU)	1	1
Belgium (BL)	2	0
Canada (CA)	7	13
Finland (FN)	1	0
France (FR)	7	3
Germany (GE)	11	3
Greece (GR)	1	1
Hong Kong (HK)	1	1
Ireland (IR)	1	0
Israel (IS)	1	0
Italy (IT)	2	1
Japan (JP)	17	14
Netherlands (NT)	4	3
New Zealand (NZ)	0	1
Norway (NO)	0	2
Singapore (SG)	2	0
Spain (SP)	4	3
Sweden (SW)	3	1
Switzerland (SZ)	13	3
United Kingdom (UK)	49	69
United States (US)	81	87
Total	220	220
Domestic	143	65%
Cross-border	77	35%
Panel B: Sample distribution by Announcement Year		
Announcement Year	**# Deals**	**Percentage**
2004	17	7.7%
2005	35	15.9%
2006	42	19.1%
2007	31	14.1%
2008	22	10.0%
2009	20	9.1%
2010	21	9.5%
2011	15	6.8%
2012	17	7.7%
Total	220	100.0%

Table 2.

Variables Descriptive Statistics

This table presents descriptive statistics for a sample of 220 deals that meet the criteria described in Table 1. Panel A, B, and C report summary statistics for acquirer characteristics, deal characteristics and deal outcome-related variables respectively. Statistics are reported for i) the full sample, ii) the large *CSRCD* subset and iii) the small *CSRCD* sub-set (the split is based on the sample median of *CSRCD*). Detailed definitions of all variables are in Appendix A. P-Values from the two-tailed t-tests for differences in means are also reported and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Full Sample			**Large Divergence**			**Small Divergence**			**t-test**	
Variables	N	Mean	Std Dev	N	Mean	Std Dev	N	Mean	Std Dev	**P-value**	
Panel A: Acquirer Characteristics											
Market Value ($mil)	220	35,208	52,389	110	41,096	62,772	110	29,321	38,784	0.096	*
Assets ($mil)	220	37,762	62,508	110	41,404	62,154	110	34,120	62,933	0.389	
Market to Book	220	4.151	21.501	110	3.110	2.704	110	5.192	30.320	0.474	
Leverage	220	0.119	0.223	110	0.103	0.236	110	0.134	0.208	0.306	
Cash-to-Assets	220	0.111	0.112	110	0.120	0.110	110	0.103	0.113	0.274	
ARunup	220	0.051	0.256	110	0.055	0.269	110	0.047	0.245	0.802	
Serial Acquirer	220	0.550	1.136	110	0.491	1.038	110	0.609	1.227	0.442	
Panel B: Deal Characteristics											
CSR Cultural Divergence (*CSRCD*)	220	0.054	0.028	110	0.076	0.021	110	0.032	0.011	0.000	***
Transaction Value ($mil)	220	9,352	16,502	110	9,136	18,268	110	9,568	14,607	0.847	
Relative size	220	0.515	0.560	110	0.484	0.581	110	0.546	0.540	0.417	
Competing bid	220	0.173	0.379	110	0.182	0.387	110	0.164	0.372	0.723	
Tender Offer	220	0.382	0.487	110	0.400	0.492	110	0.364	0.483	0.581	
Toehold	220	0.136	0.344	110	0.145	0.354	110	0.127	0.335	0.696	
Domestic	220	0.650	0.478	110	0.555	0.499	110	0.745	0.438	0.003	***
Same Industry	220	0.645	0.479	110	0.573	0.497	110	0.718	0.452	0.024	**
Full Cash Payment	220	0.473	0.500	110	0.545	0.500	110	0.400	0.492	0.031	**
Full Stock Payment	220	0.205	0.404	110	0.155	0.363	110	0.255	0.438	0.067	*
Cash Payment (%)	220	0.592	0.437	110	0.656	0.427	110	0.528	0.440	0.030	**
Stock Payment (%)	220	0.353	0.419	110	0.281	0.395	110	0.425	0.431	0.011	**
Hostile	220	0.105	0.307	110	0.100	0.301	110	0.109	0.313	0.827	
HofstedeDist	220	0.085	0.136	110	0.097	0.128	110	0.072	0.143	0.161	
Panel C: Deal Outcomes											
Acquirer CAR (-5, +5)	220	-0.020	0.071	110	-0.033	0.064	110	-0.007	0.075	0.006	***
Synergy (VWCAR)	220	0.024	0.072	110	0.010	0.063	110	0.039	0.077	0.002	***
Bidder's share of synergy (BSOS)	220	-2.610	13.489	110	-3.063	15.453	110	-2.158	11.241	0.620	
Premium	220	0.324	0.574	110	0.286	0.306	110	0.362	0.752	0.330	
Complete	220	0.736	0.442	110	0.673	0.471	110	0.800	0.402	0.032	**
Completion Time	162	183	146	81	196	170	81	170	117	0.263	

Table 3.

Effect of CSR cultural divergence on bidder announcement CARs

The table presents regression results on the effect of CSR cultural divergence (*CSRCD*) on acquirer cumulative abnormal returns (CARs) around M&A announcement. The sample of acquisitions meets the criteria described in Table 1. The dependent variable is the bidder CAR over an 11-day event window (-5, +5) surrounding the deal announcement based on the market model estimated over the pre-announcement window of (-300, -91) where the market return is estimated from each country's Total Market Index in Datastream. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Acquirer CAR (-5, +5)			
	1	**2**	**3**	**4**
CSRCD	-0.399**	-0.512***	-0.527***	-0.534***
	(0.014)	(0.007)	(0.005)	(0.004)
Relative size		-0.010	-0.013	-0.013
		(0.209)	(0.150)	(0.164)
Tender		-0.013	-0.012	-0.012
		(0.270)	(0.298)	(0.311)
Toehold		-0.003	-0.001	-0.002
		(0.846)	(0.931)	(0.913)
Domestic		-0.014	-0.013	-0.018
		(0.193)	(0.234)	(0.368)
Same Industry		0.016	0.016	0.016
		(0.104)	(0.122)	(0.116)
Premium		0.008	0.001	0.001
		(0.104)	(0.949)	(0.962)
All Cash		0.020	0.020	0.020
		(0.128)	(0.107)	(0.102)
Hostile		-0.009	-0.008	-0.008
		(0.609)	(0.669)	(0.658)
Ln (A_Size)			-0.001	-0.001
			(0.770)	(0.781)
Leverage			-0.022	-0.022
			(0.483)	(0.489)
MTB			0.000	0.000
			(0.618)	(0.608)
Cash/Assets			-0.167**	-0.165**
			(0.027)	(0.031)
ARunup			-0.016	-0.016
			(0.641)	(0.639)
Serial Acquirer			-0.002	-0.002
			(0.687)	(0.701)
HofstedeDist				-0.022
				(0.742)
Intercept	0.002	0.068	0.096*	0.099*
	(0.879)	(0.142)	(0.088)	(0.086)
Year fixed effects	No	Yes	Yes	Yes
Industry fixed effects	No	Yes	Yes	Yes
N	220	220	220	220
Adj_R-Squared	0.020	0.055	0.076	0.071

Table 4.

Effect of CSR cultural divergence on synergy returns

This table presents results of OLS regressions of synergy gains (VWCAR) around M&A announcements on CSR cultural divergence. The sample of acquisitions meets the criteria described in Table 1. The dependent variable (VWCAR) is the market value-weighted average of acquirer CAR and target CAR over the 11-day event window (-5, +5) surrounding the deal announcement. CARs are calculated based on the market model estimated over the pre-announcement window of (-300, -91) where the market return is estimated from each country's Total Market Index in Datastream. The market value weights are based on firms' market value four weeks prior to announcement. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)			
	1	**2**	**3**	**4**
CSRCD	-0.644***	-0.688***	-0.719***	-0.693***
	(0.000)	(0.000)	(0.000)	(0.000)
Relative size		0.026**	0.022**	0.021*
		(0.011)	(0.049)	(0.068)
Competing bid		0.027*	0.030*	0.031**
		(0.068)	(0.060)	(0.046)
Tender		-0.001	-0.000	-0.001
		(0.961)	(0.971)	(0.903)
Toehold		-0.010	-0.008	-0.006
		(0.479)	(0.582)	(0.651)
Domestic		-0.010	-0.010	0.013
		(0.357)	(0.365)	(0.605)
Same Industry		0.017	0.015	0.014
		(0.123)	(0.199)	(0.207)
All Cash		0.023**	0.024**	0.023**
		(0.046)	(0.031)	(0.034)
Hostile		0.007	0.009	0.011
		(0.713)	(0.618)	(0.546)
Ln (A_Size)			-0.003	-0.003
			(0.483)	(0.441)
Leverage			-0.029	-0.031
			(0.409)	(0.374)
MTB			0.000	0.000
			(0.560)	(0.568)
Cash/Assets			-0.131*	-0.143*
			(0.078)	(0.051)
ARunup			-0.035	-0.034
			(0.264)	(0.275)
Serial Acquirer			-0.003	-0.003
			(0.530)	(0.498)
HofstedeDist				0.097
				(0.386)
Intercept	0.059***	0.044	0.083	0.067
	(0.000)	(0.255)	(0.101)	(0.213)
Year fixed effects	No	Yes	Yes	Yes
Industry fixed effects	No	Yes	Yes	Yes
N	220	220	220	220
Adj R-Squared	0.059	0.105	0.120	0.125

Table 5.

Effect of CSR cultural divergence on acquirer bargaining power

This table presents OLS regression results of acquirer's bargaining power on CSR cultural divergence. The sample of acquisitions meets the criteria described in Table 1. In regressions (1)-(2), the dependent variable is BSOS, following Golubov *et al.* (2012). BSOS is defined as the bidder dollar-denominated gain and is computed as the market value of equity four weeks prior to the announcement times acquirer CAR (-5, +5) divided by Synergy Gain if synergy gain is positive and (1-Bidder dollar-denominated gain) divided by Synergy Gain if Synergy Gain is negative. Synergy Gain is the sum of bidder and target dollar-denominated gains, computed as the sum of their market value of equity four weeks prior to the announcement times the corresponding CAR (-5, +5) for the two firms. In regressions (3)-(4), the dependent variable is acquisition premium. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	BSOS		**Acquisition Premium**	
	1	**2**	**3**	**4**
CSRCD	-28.424	-15.393	-0.128	-1.031
	(0.275)	(0.677)	(0.907)	(0.176)
Relative size		1.848		-0.016
		(0.104)		(0.642)
Competing bid		1.305		0.101*
		(0.652)		(0.083)
Tender		-3.401		0.079**
		(0.135)		(0.045)
Toehold		4.322*		-0.041
		(0.064)		(0.416)
Domestic		3.649		-0.033
		(0.233)		(0.641)
Same Industry		4.576*		0.046
		(0.068)		(0.287)
All Cash		-0.950		0.124***
		(0.763)		(0.005)
Hostile		3.207		0.103
		(0.212)		(0.164)
Ln (A_Size)		0.844		0.016
		(0.169)		(0.364)
Leverage		-3.032		-0.116
		(0.717)		(0.398)
MTB		-0.001		0.023***
		(0.954)		(0.000)
Cash/Assets		-8.301		-0.180
		(0.595)		(0.449)
ARunup		2.517		-0.021
		(0.278)		(0.762)
Serial Acquirer		0.196		-0.006
		(0.718)		(0.730)
HofstedeDist		12.008		-0.135
		(0.149)		(0.575)
Intercept	-1.073	-8.258	0.331***	0.191
	(0.372)	(0.406)	(0.000)	(0.470)
Year fixed effects	No	Yes	No	Yes
Industry fixed effects	No	Yes	No	Yes
N	220	220	220	220
R-Squared	0.004	0.144	0.000	0.827

Table 6.
Effect of CSR cultural divergence on deal completion probability and deal completion time

In this table, columns 1 (Logit model) and 2 (Probit model) present the cross-sectional regression results of deal completion probability on CSR cultural divergence. The regressions are based on a sample of 220 domestic and cross-border international M&A deals that meets the criteria described in Table 1. The dependent variable is a binary variable that takes the value of one if the deal was completed and zero otherwise. Columns 3 and 4 present the Tobit regression results of deal completion time on CSR cultural divergence. The sample consists of 162 completed deals. The dependent variable is the number of calendar days between the deal announcement date and the acquisition effective date. The key independent variable in column 4 is the large CSR cultural divergence dummy defined based on the sample median *CSRCD* score. Acquirers and targets are all public firms. Detailed definitions of all variables are in Appendix A. Year and Fama and French 12 Industry fixed effects are controlled for all regressions. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Completion Probability		**Completion Time**	
	Logit	**Probit**	**Tobit**	
	1	**2**	**3**	**4**
CSRCD	-26.423**	-13.483***	750.494*	
	(0.017)	(0.009)	(0.091)	
CSRCD_Large Dummy				52.279**
				(0.019)
Relative size	-0.405	-0.237	19.813	16.582
	(0.416)	(0.331)	(0.308)	(0.383)
Competing bid	-2.961***	-1.633***	13.267	19.676
	(0.000)	(0.000)	(0.748)	(0.652)
Tender	0.812	0.474*	-51.754*	-56.055**
	(0.131)	(0.092)	(0.055)	(0.040)
Toehold	1.351**	0.778**	62.844	66.193
	(0.021)	(0.015)	(0.124)	(0.111)
Domestic	0.388	0.181	49.432	50.813
	(0.633)	(0.681)	(0.265)	(0.232)
Same Industry	0.680	0.371	28.405	35.789
	(0.189)	(0.160)	(0.274)	(0.160)
Premium	0.812	0.450	6.644	5.393
	(0.452)	(0.383)	(0.911)	(0.927)
All Cash	0.509	0.290	-40.893*	-40.178*
	(0.374)	(0.321)	(0.072)	(0.076)
Hostile	-3.314***	-1.859***	-26.608	-24.098
	(0.000)	(0.000)	(0.533)	(0.576)
Ln (A_Size)	0.403**	0.220**	22.319***	22.898***
	(0.029)	(0.022)	(0.009)	(0.006)
Leverage	1.710	1.080	57.524	56.844
	(0.240)	(0.170)	(0.362)	(0.357)
MTB	-0.241	-0.134*	-10.874***	-10.927***
	(0.108)	(0.052)	(0.005)	(0.006)
Cash/Assets	9.923***	5.681***	43.836	20.363
	(0.002)	(0.001)	(0.711)	(0.865)
ARunup	-2.442***	-1.311***	-38.416	-32.836
	(0.005)	(0.006)	(0.366)	(0.432)
Serial Acquirer	-0.004	0.009	11.970	10.691
	(0.986)	(0.950)	(0.204)	(0.239)
HofstedeDist	-3.859	-2.209	14.530	17.138
	(0.233)	(0.181)	(0.920)	(0.901)
Intercept	-1.716	-1.067	-112.527	-103.480
	(0.419)	(0.362)	(0.300)	(0.320)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	220	220	162	162
Pseudo R-squared	0.443	0.443	0.037	0.039

Table 7.

Effect of CSR cultural divergence on the method of payment

This table presents Tobit (column 1-4) and OLS (column 5) regressions results of the deal financing method on CSR cultural divergence. The dependent variable is the percentage of payment made in stock. The sample consists of 220 domestic and cross-border international M&A deals that meet the criteria described in Table 1. Acquirers and targets are all public firms. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Percentage Payment by Stock				
	Tobit				**OLS**
	1	**2**	**3**	**4**	**5**
CSRCD	-9.752***	-3.535*	-4.685**	-4.720**	-2.176**
	(0.000)	(0.067)	(0.014)	(0.014)	(0.014)
Relative size		0.112	0.115	0.118	0.048
		(0.220)	(0.246)	(0.239)	(0.426)
Competing bid		-0.256*	-0.261*	-0.263*	-0.096
		(0.090)	(0.088)	(0.085)	(0.130)
Tender		-0.433***	-0.431***	-0.428***	-0.169***
		(0.000)	(0.000)	(0.000)	(0.002)
Toehold		-0.315**	-0.279*	-0.283**	-0.153**
		(0.037)	(0.053)	(0.050)	(0.021)
Domestic		0.584***	0.538***	0.481**	0.155*
		(0.000)	(0.000)	(0.022)	(0.077)
Same Industry		0.124	0.076	0.077	0.029
		(0.241)	(0.459)	(0.458)	(0.605)
Premium		-0.619***	-0.642***	-0.641***	-0.296***
		(0.000)	(0.000)	(0.000)	(0.001)
Hostile		0.629***	0.645***	0.638***	0.216***
		(0.000)	(0.000)	(0.000)	(0.006)
Ln (A_Size)			-0.011	-0.010	-0.010
			(0.778)	(0.787)	(0.651)
Leverage			-0.680**	-0.679**	-0.310*
			(0.029)	(0.029)	(0.067)
MTB			0.011***	0.011***	0.006***
			(0.005)	(0.004)	(0.005)
Cash/Assets			-0.134	-0.115	0.036
			(0.819)	(0.846)	(0.916)
ARunup			-0.057	-0.061	-0.044
			(0.760)	(0.743)	(0.682)
Serial Acquirer			-0.080	-0.080	-0.016
			(0.141)	(0.142)	(0.553)
HofstedeDist				-0.223	-0.306
				(0.758)	(0.280)
Intercept	0.538***	0.426*	0.751*	0.799*	0.434
	(0.000)	(0.081)	(0.086)	(0.078)	(0.154)
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
N	220	220	220	220	220
Pseudo R-sq/Adj R-sq	0.047	0.333	0.367	0.367	0.356

Table 8.

Long run post-acquisition stock performance -Calendar time portfolio monthly average returns (CTPR) in excess of the Carhart four-factor model

This table presents OLS estimates of monthly abnormal returns (alphas) to takeover samples for (i) a low *CSRCD* portfolio; (ii) a high *CSRCD* portfolio; and (iii) a high-minus-low *CSRCD* investment portfolio. The categorizations of low/high *CSRCD* portfolios are set at the bottom/top 20 percentile of the 162 completed sample deals. The monthly stock prices are downloaded from Datastream. In each month, we compute portfolio returns for (i) a low *CSRCD* portfolio; (ii) a high *CSRCD* portfolio; and (iii) a high-minus-low *CSRCD* investment portfolio. The portfolio weights are derived from the market value of acquiring firms 4 weeks prior to the deal announcement. Acquirers enter the portfolios on the effective month of the deal and remain for 12 to 36 months. Calendar portfolios are rebalanced each month to include firms that have just completed a takeover and to disregard the ones that have completed 12 to 36 months in the test period. The calendar time portfolio regressions are based on the Carhart four-factor model as follows:

$$R_{pt} - R_{ft} = \alpha_p + \beta_p(R_{mt} - R_{ft}) + S_p SMB_t + h_p HML_t + m_t MOM_t + e_{pt}$$

We run OLS regressions of the monthly excess portfolio returns after subtracting the risk-free rate on the Carhart four factors to obtain the abnormal return (alpha) as the intercepts from the regressions. Where R_{mt} is the market return of the developed markets defined by Kenneth French's data library; R_{pt} is the calendar time portfolio return; R_{ft} is the U.S. one month T-bill rate at months t; SMB_t is the difference in returns of value-weighted portfolios of small firms and big firms during months t; HML_t is the return differential of value-weighted portfolios of high and low book-to-market ratio firms in month t; MOM_t is the momentum factor and it is the average return on the high prior return portfolios minus the average return on the low prior return portfolios. The factor data used in the regressions are downloaded from Kenneth French's data library for developed markets. α_p corresponds to the monthly excess portfolio return.

N is the number of acquirers in each sample and Cal. Month is the number of calendar months for each calendar portfolio regression. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Low *CSRCD* Portfolio	**High *CSRCD* Portfolio**	**High-Low**
1 Year			
CTPR α	1.711***	0.437	-1.342*
	(0.005)	(0.315)	(0.066)
Mkt – Rf	0.947***	0.685***	-0.207
	(0.000)	(0.000)	(0.205)
SMB	-0.203	0.257	0.482
	(0.581)	(0.327)	(0.327)
HML	-0.043	-0.070	-0.039
	(0.905)	(0.866)	(0.945)
MOM	-0.411**	-0.132	0.307
	(0.035)	(0.386)	(0.280)
Cal. Months	117	114	111
Adj R-Squared	0.443	0.360	0.062
N	33	32	65
2 Years			
CTPR α	1.140**	-0.065	-1.203**
	(0.017)	(0.862)	(0.032)
Mkt – Rf	0.864***	0.624***	-0.222*
	(0.000)	(0.000)	(0.057)
SMB	-0.128	-0.176	-0.019
	(0.637)	(0.354)	(0.952)
HML	-0.048	0.262	0.283
	(0.870)	(0.332)	(0.436)
MOM	-0.479***	-0.163*	0.334**
	(0.001)	(0.096)	(0.034)
Cal. Months	130	126	126
Adj R-Squared	0.474	0.410	0.080
N	33	32	65

Table 8. Cont'd

	Low *CSRCD* Portfolio	**High *CSRCD* Portfolio**	**High-Low**
3 Years			
CTPR α	0.967**	0.191	-0.788*
	(0.020)	(0.476)	(0.085)
Mkt – Rf	0.885***	0.610***	-0.256***
	(0.000)	(0.000)	(0.009)
SMB	-0.291	-0.268*	0.049
	(0.225)	(0.059)	(0.850)
HML	0.357	0.086	-0.306
	(0.150)	(0.599)	(0.275)
MOM	-0.205*	-0.190***	0.032
	(0.056)	(0.010)	(0.749)
Cal. Months	130	126	126
Adj R-Squared	0.511	0.561	0.079
N	33	32	65

Table 9.

Long-run operating performance

This table presents results of OLS regression analysis of change in operating performance (*Δ ROA*) on *CSRCD* using the sample of completed deals. Following Golubov *et al.* (2020), the dependent variable is the change in return on asset (operating income divided by total assets) of the combined firm in one, two and three years post-deal compared to the acquirer and target prior to the deal. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	Δ ROA (-1 to +1)	**Δ ROA (-1 to +2)**	**Δ ROA (-1 to +3)**
	1	**2**	**3**
CSRCD	-80.895*	-80.595**	-91.085**
	(0.097)	(0.046)	(0.025)
Relative size	-4.002*	-2.562	-1.792
	(0.055)	(0.108)	(0.293)
Tender	-0.287	-0.468	0.670
	(0.903)	(0.807)	(0.743)
Toehold	-4.255	-2.728	-3.509
	(0.212)	(0.353)	(0.290)
Domestic	-5.605	-3.708	-5.663*
	(0.142)	(0.238)	(0.099)
Same Industry	-1.384	-1.903	0.523
	(0.491)	(0.304)	(0.800)
Premium	-3.694	-4.699	-3.652
	(0.427)	(0.263)	(0.420)
All Cash	-2.747	0.291	-0.274
	(0.393)	(0.913)	(0.920)
Hostile	-2.418	-4.604	-3.785
	(0.544)	(0.177)	(0.222)
Ln (A_Size)	0.664	1.413**	1.475*
	(0.527)	(0.047)	(0.054)
Leverage	14.440**	9.955*	14.320**
	(0.036)	(0.094)	(0.036)
MTB	0.575**	0.301	0.264
	(0.044)	(0.239)	(0.334)
Cash/Assets	36.944**	19.109*	29.035**
	(0.017)	(0.083)	(0.022)
ARunup	0.174	1.932	2.706
	(0.968)	(0.576)	(0.449)
ROA	-0.673***	-0.948***	-0.792***
	(0.000)	(0.000)	(0.000)
Serial Acquirer	-0.579	-0.648	-0.843
	(0.500)	(0.342)	(0.254)
HofstedeDist	-18.094	-17.097*	-21.552**
	(0.106)	(0.069)	(0.035)
Intercept	-6.804	-15.208	-22.339
	(0.691)	(0.327)	(0.150)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
N	162	162	162
Adj R-Squared	0.386	0.631	0.552

Appendix A. Variable Definitions

Variable	Definition	Source
Deal Outcomes		
Acquirer CAR	Acquirer's cumulative abnormal return over the event window [-5, +5] days surrounding acquisition announcement, using the market model with Datastream Total Index returns for the respective firm's host country as the benchmark. The market model is estimated using at least 30 non-missing daily returns data over the [-300, -91] period prior to the announcement.	Datastream
Target CAR	Target's cumulative abnormal return over the event window [-5, +5] days surrounding acquisition announcement, using the market model with Datastream Total Index returns for the respective firm's host country as the benchmark. The market model is estimated using at least 30 non-missing daily returns data over the [-300, -91] period prior to the announcement.	Datastream
Synergy (VWCAR)	The value-weighted cumulative abnormal return over the event window [-5, +5] days surrounding acquisition announcement of the acquirer and target firms, using the market model with Datastream Total Index returns for the respective firm's host country as the benchmark. The market model is estimated using at least 30 non-missing daily returns data over the [-300, -91] period prior to the announcement. The weights are based on the firms' market value four weeks prior to announcement.	Datastream
Bidder's share of synergy (BSOS)	Bidder dollar-denominated gain (computed as the market value of equity four weeks prior to the announcement times acquirer CAR (-5, +5)) divided by Synergy Gain if synergy gain is positive and (1-Bidder dollar-denominated gain) divided by Synergy Gain if Synergy Gain is negative. Synergy Gain is the sum of bidder and target dollar-denominated gains, computed as the sum of the market value of equity four weeks prior to the announcement times the CAR (-5, +5) for the two firms (Golubov *et al.* 2012).	Datastream
Premium	The ratio of offer price to target stock price 4 weeks prior to announcement minus one.	SDC
Complete	Dummy variable: one for deals that are completed, zero for withdrawn deals.	SDC
Completion Time	Number of days between the deal announcement date and effective date.	SDC
Δ ROA (-1, + N)	Change in the return on assets of the combined firm from one year prior to the deal to N years post-deal (N=1, 2, 3).	Datastream
Firm Characteristics		
Size	Natural logarithm of acquirer's market value of equity four weeks prior to announcement, adjusted to 2010 dollar.	SDC
Assets	Bidder's book value of total assets at the end of the fiscal year prior to deal announcement ($mil).	SDC

MTB	Acquirer's ratio of market capitalization to book value of total assets at the end of the fiscal year prior to deal announcement.	SDC
Leverage	Bidder's ratio of net debt to book value of total assets at the end of the fiscal year prior to deal announcement.	SDC
Cash/Assets	Acquirer's ratio of cash and marketable securities to book value of total assets at the end of the fiscal year prior to deal announcement.	SDC
ARunup	Market adjusted buy-and-hold return of the acquirer's stock over (-205, -6) window prior to announcement (Golubov *et al.* 2012).	Datastream
ROA	Acqurier's return on assets in the year prior to the deal announcement.	Datastream
Serial Acquirer	The number of deals that the acquirer has completed in the past three years prior to announcement.	SDC
FTSE4Good Constituent	Indicator variable: one if the bidder is a constituent firm of the FTSE4Good Index in the year prior to announcement, zero otherwise.	FTSE
Deal Characteristics		
Transaction value	The value of transaction ($mil).	SDC
Relative size	The ratio of transaction value to bidder market value of equity four weeks prior to announcement.	SDC
Competing bid	Dummy variable: one for deals with more than one bidder, zero otherwise.	SDC
Tender	Indicator variable: one for tender offers, zero otherwise.	SDC
Toehold	Indicator variable: one if the bidder already holds certain percentage of the target shares at the announcement, zero otherwise.	SDC
Domestic	Indicator variable: one if the bidder and target are from the same country, zero otherwise.	SDC
Same Industry	Indicator variable: one if the bidder and target have the same two-digit standard industry classification (SIC) Code, zero otherwise.	SDC
Full Cash Payment	Indicator variable: one for deals financed fully with cash, zero otherwise.	SDC
Full Stock Payment	Indicator variable: one for deals financed fully with stock, zero otherwise.	SDC
Cash (%)	Percentage of payment made by cash.	SDC
Stock (%)	Percentage of payment made by stock.	SDC
Hostile	Indicator variable: one for hostile deals, zero otherwise.	SDC
Cultural Divergence Measures		
CSRCD	Corporate Social Responsibility Cultural Divergence: The Euclidean distance of categorical inquiry scores between acquirer and target.	EIRIS
CSRCD_Alternative 1	The absolute value of average categorical differences in acquirer's and target's cultural scores.	EIRIS
CSRCD_Alternative 2	The average of absolute categorical differences in acquirer's and target's cultural scores.	EIRIS
CSRCD_Alternative 3	One minus the absolute value of correlation on the inquiry assessment outputs between the acquirer and target on the	EIRIS

	set of overlapping inquiries that are available for both firms in a deal.	
HofstedeDist	National cultural distance between the acquirer and target nations, computed as the Cartesian distance in Hofstede's four different cultural dimensions.	Hofstede (2001)

Appendix B. CSR Cultural Divergence Variables Construction

Stage 1: Assigning a culture score within the range [0, 1] to each inquiry in the EIRIS dataset assessed on the sample firms.

We utilise a scale from zero to one when assigning a score to each inquiry data point with one denoting the highest cultural score and zero the lowest. For binary inquiries data (e.g., Yes/No), the assessment indicating superior corporate culture is assigned a score of 1, and its counterpart a score of 0. For categorical inquiry assessments (e.g., Basic, Intermediate, Advanced), outputs within the range [0,1] are split into equal intervals with the assessment results that correspond to better corporate culture being assigned scores closer to one. For the remaining inquiries with a discrete number of outputs (e.g., What is the total amount donated by the company in the last year), we assign a cultural score within the range [0,1] based on the percentile ranking of a particular output relative to all other results for the same inquiry in the sample.

The table below includes statistics on the coverage of inquiries items for each category.[21]

Category	Number of inquiry items covered under the category	Number of inquiry assessment output data points collected from sample firms	The range of scores assigned to each inquiry assessment output
Corporate Governance	58	18,049	[0, 1]
Employees	36	4,331	[0, 1]
Products and Customers	36	411	[0, 1]
Community	11	2,401	[0, 1]
Environment	77	10,385	[0, 1]
Ethics	27	6,854	[0, 1]
Controversial Business Issues	84	12,705	[0, 1]
Total	329	55,136	
Average	47	7,877	

[21] For a full scholarly overview on the individual EIRIS inquiry items, please see the extensive Appendix 3 of Hancock (2005).

Stage 2: Methodological Design for estimation of *CSRCD* measures

After assigning a score to each inquiry assessment output for sample firms in the first stage, we then compute *CSRCD* between the acquirer and the target for each deal based on the four methods described below.

Corporate Culture Divergence	Computation Method	Formula
Main measure:		
CSRCD	The Euclidean distance of categorical inquiry scores between acquirer and target.	$= \frac{\sqrt{\sum_{i=1}^{7}(S_{A,i}-S_{T,i})^2}}{7} \in [0,1]$ $S_{A,i} = mean\ inquiry\ score\ of\ acquirer\ in\ category\ i$ $S_{T,i} = mean\ inquiry\ score\ of\ target\ in\ category\ i$
Alternative measures for robustness check:		
CSRCD_Alternative 1	The absolute value of average categorical differences in acquirer's and target's cultural scores.	$= \left\lvert \frac{\sum_{i=1}^{7}(S_{A,i} - S_{T,i})}{7} \right\rvert \in [0,1]$
CSRCD_Alternative 2	The average of absolute categorical differences in acquirer's and target's cultural scores.	$= \frac{\sum_{i=1}^{7}\lvert S_{A,i} - S_{T,i} \rvert}{7} \in [0,1]$
CSRCD_Alternative 3	One minus the absolute value of correlation on the inquiry assessment outputs between the acquirer and target on the set of overlapping inquiries that are available for both firms in a deal.	$= 1 - \lvert Corr_{A,T} \rvert \in [0,1]$ $Corr_{A,T}$ = Total Correlation of overlapped inquiries between acquirer and its corresponding target for each deal

Appendix C1. Robustness test on deal synergy using Heckman's 2 stages selection model

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) around M&A announcements. In column 1, the OLS regression is performed on the sample of completed deals. In column 2, we show results using Heckman's two-stages self-selection correction, where the inverse Mills Ratio is based on merger-completion likelihood (as in Table 6). Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)	
	Completed Deals	**Heckman Selection**
	1	**2**
CSRCD	-0.757***	-0.849***
	(0.001)	(0.001)
Relative size	0.015	0.012
	(0.371)	(0.481)
Competing bid	-0.010	-0.019
	(0.502)	(0.273)
Tender	-0.005	-0.001
	(0.717)	(0.927)
Toehold	0.007	0.011
	(0.647)	(0.470)
Domestic	0.035	0.037
	(0.206)	(0.190)
Same Industry	0.012	0.015
	(0.359)	(0.260)
All Cash	0.034**	0.035**
	(0.027)	(0.021)
Hostile	-0.013	-0.028
	(0.658)	(0.364)
Ln (A_Size)	-0.004	-0.002
	(0.394)	(0.589)
Leverage	-0.033	-0.027
	(0.490)	(0.581)
MTB	0.000	-0.000
	(0.846)	(0.865)
Cash/Assets	-0.135*	-0.108
	(0.077)	(0.208)
ARunup	-0.097***	-0.103***
	(0.000)	(0.000)
Serial Acquirer	-0.002	-0.002
	(0.732)	(0.690)
HofstedeDist	0.170	0.160
	(0.157)	(0.187)
Inverse Mills ratio		0.026
		(0.420)
Intercept	0.090	0.048
	(0.203)	(0.458)
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
N	162	162
Adj R-Squared	0.175	0.173

Appendix C2. Robustness test on deal synergy using Propensity Score Matching

This table reports the ordinary least squares (OLS) regressions of the impact of CSR cultural divergence on synergy gains (VWCAR) for the propensity score matched sample. To construct our propensity score matched sample, we use a probit regression to estimate the likelihood of a deal with high *CSRCD*, represented as *CSRCD*_High, which equals to one if a deal's *CSRCD* is larger than the sample median, and zero otherwise. The independent variables of the probit regression include all the firm and deal characteristics that we have controlled in our main test in Table 4. Using the propensity score generated in the probit regression, we construct the matched sample using one-to-one nearest-neighbour matching without replacement. A calliper of 5% is applied in models 1 and 3; and a calliper of 2% is applied in models 2 and 4 respectively. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)		**VWCAR (-5, +5)**	
	1	**2**	**3**	**4**
CSRCD	-0.757***	-0.816***		
	(0.002)	(0.002)		
CSRCD_High			-0.039***	-0.038***
			(0.006)	(0.008)
Relative size	0.007	0.016	0.012	0.021
	(0.625)	(0.296)	(0.390)	(0.172)
Competing bid	0.034	0.033	0.026	0.032
	(0.126)	(0.127)	(0.243)	(0.138)
Tender	-0.003	-0.012	-0.001	-0.013
	(0.838)	(0.498)	(0.968)	(0.479)
Toehold	0.006	-0.006	-0.003	-0.011
	(0.744)	(0.772)	(0.862)	(0.613)
Domestic	0.053	0.059	0.052	0.059
	(0.158)	(0.117)	(0.167)	(0.127)
Same Industry	0.013	0.007	0.012	0.007
	(0.332)	(0.647)	(0.394)	(0.649)
All Cash	0.012	0.023	0.010	0.021
	(0.362)	(0.112)	(0.428)	(0.164)
Hostile	0.003	0.021	-0.005	0.017
	(0.888)	(0.489)	(0.818)	(0.553)
Ln (A_Size)	-0.009*	-0.003	-0.010**	-0.004
	(0.062)	(0.577)	(0.044)	(0.461)
Leverage	-0.025	-0.048	-0.027	-0.042
	(0.564)	(0.345)	(0.520)	(0.401)
MTB	0.000	-0.001	0.000	-0.001
	(0.940)	(0.763)	(0.990)	(0.708)
Cash/Assets	-0.152*	-0.215**	-0.148*	-0.205**
	(0.086)	(0.024)	(0.092)	(0.031)
ARunup	-0.018	-0.026	-0.008	-0.019
	(0.616)	(0.454)	(0.831)	(0.589)
Serial Acquirer	-0.001	-0.013	0.001	-0.010
	(0.912)	(0.274)	(0.866)	(0.384)
HofstedeDist	0.234	0.252	0.229	0.252
	(0.135)	(0.133)	(0.148)	(0.147)
Intercept	0.101	0.044	0.083	0.029
	(0.124)	(0.609)	(0.208)	(0.740)
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	146	142	146	142
Adj R-Squared	0.037	0.099	0.030	0.078

Appendix C3. Robustness test on deal synergy using alternative *CSRCD* measures

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) around M&A announcements, using alternative *CSRCD* measures. In column 1, the key independent variable is *CSRCD _Alternative 1*, measured as the absolute value of average categorical differences in acquirer's and target's cultural scores. In column 2, the key independent variable is *CSRCD_Alternative 2*, computed as the average of absolute categorical differences in acquirer's and target's cultural scores. In column 3, the key independent variable is *CSRCD_Alternative 3*, constructed as one minus the absolute value of correlation on the inquiry assessment outputs between the acquirer and target. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)		
	1	**2**	**3**
CSRCD_Alternative 1	-0.324***		
	(0.000)		
CSRCD_Alternative 2		-0.336***	
		(0.000)	
CSRCD_Alternative 3			-0.072*
			(0.064)
Relative size	0.021*	0.021*	0.024**
	(0.063)	(0.078)	(0.041)
Competing bid	0.025*	0.031**	0.028*
	(0.094)	(0.045)	(0.073)
Tender	-0.000	-0.000	0.004
	(0.998)	(0.981)	(0.713)
Toehold	-0.008	-0.007	-0.009
	(0.582)	(0.626)	(0.519)
Domestic	0.021	0.014	0.018
	(0.417)	(0.590)	(0.483)
Same Industry	0.015	0.013	0.014
	(0.194)	(0.245)	(0.203)
All Cash	0.022**	0.023**	0.023**
	(0.045)	(0.037)	(0.044)
Hostile	0.008	0.009	0.008
	(0.633)	(0.603)	(0.667)
Ln (A_Size)	-0.005	-0.003	-0.002
	(0.178)	(0.455)	(0.596)
Leverage	-0.033	-0.031	-0.036
	(0.340)	(0.368)	(0.293)
MTB	0.000	0.000	0.000
	(0.168)	(0.478)	(0.462)
Cash/Assets	-0.144**	-0.144**	-0.158**
	(0.046)	(0.048)	(0.033)
ARunup	-0.028	-0.033	-0.033
	(0.374)	(0.288)	(0.301)
Serial Acquirer	-0.001	-0.003	-0.002
	(0.821)	(0.538)	(0.732)
HofstedeDist	0.120	0.099	0.121
	(0.276)	(0.375)	(0.292)
Intercept	0.057	0.067	0.036
	(0.285)	(0.209)	(0.496)
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
N	220	220	220
Adj R-Squared	0.118	0.117	0.076

Appendix C4. Robustness test on deal synergy by acquirer nations

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) around M&A announcements. Panel A shows the test results in subsamples with US and Non-US acquirers. In Panel B, we include the acquirer nation fixed effects as additional controls in the regression to account for the country-specific effect. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

Panel A: US and Non-US acquirer subsamples

	VWCAR (-5, +5)	
	US Acquirers subsample	**Non-US Acquirers subsample**
CSRCD	-0.572**	-0.803***
	(0.044)	(0.000)
Controls	Yes	Yes
Year fixed effects	Yes	Yes
Industry fixed effects	Yes	Yes
N	81	139
Adj R-Squared	0.111	0.159

Panel B: Additional control for acquirer nation fixed effects

	VWCAR (-5, +5)
	Include acquirer nation FE
CSRCD	-0.658***
	(0.001)
Controls	Yes
Year fixed effects	Yes
Industry fixed effects	Yes
Acquirer Nation FE	Yes
N	220
Adj R-Squared	0.095

Appendix C5. Robustness test on the effect of cross-border on deal synergy

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) while taking into account the effect of cross-border deals. The dummy variable Cross-border equals to one for cross-border deals, and zero otherwise. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)		
	1	**2**	**3**
CSRCD	-0.719***	-0.686***	-0.698***
	(0.000)	(0.003)	(0.002)
Cross-border	0.010	0.016	-0.015
	(0.365)	(0.578)	(0.664)
CSRCD * Cross-border		-0.102	0.017
		(0.792)	(0.961)
HofstedeDist			0.097
			(0.377)
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
N	220	220	220
Adj R-Squared	0.120	0.116	0.121

Appendix C6. Robustness test effect of national institutional configuration on deal synergy

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) while taking into account the effect of national institutional configuration. Countries are classified into Coordinated Market Economies (CME) and Liberal Market Economies (LME) following the institutional configuration grouping in Desender and Epure (2020) and Surroca *et al.* (2020). In columns 1 and 2, A_CME is a dummy variable that equals to one if the acquirer is from a CME country, and zero otherwise. In columns 3 and 4, Both_A_and_T_are_CME is a dummy variable that equals to one if both the acquirer and target firms are from CME countries, and zero otherwise. In columns 5 and 6, Both_A_and_T_are_LME is a dummy variable that equals to one if both acquirer and target firms are from LME countries, and zero otherwise. In columns 7 and 8, Either_A_or_T_is_CME is a dummy variable that equals to one if either the acquirer or target firm is from a CME country, and zero otherwise. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)							
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**
CSRCD	-0.693***	-0.674***	-0.690***	-0.744***	-0.692***	-0.657**	-0.695***	-0.649***
	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.016)	(0.000)	(0.001)
A_CME	-0.001	0.002						
	(0.904)	(0.932)						
CSRCD * A_CME		-0.059						
		(0.861)						
Both_A_and_T_are_CME			-0.007	-0.025				
			(0.652)	(0.437)				
CSRCD * Both_A_and_T_are_CME				0.334				
				(0.475)				
Both_A_and_T_are_LME					0.008	0.011		
					(0.461)	(0.644)		
CSRCD * Both_A_and_T_are_LME						-0.052		
						(0.873)		
Either_A_or_T_is_CME							-0.007	0.011
							(0.667)	(0.731)
CSRCD * Either_A_or_T_is_CME								-0.273
								(0.510)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	220	220	220	220	220	220	220	220
Adj R-Squared	0.121	0.116	0.122	0.119	0.123	0.118	0.121	0.118

Appendix C7. Robustness test with the effect of investor protection on deal synergy

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) while taking into account of the acquirer target distances in their national institutions of investor protection using the measures of Porta *et al.* (1998). In column 1, the acquirer and target distance in antidirector rights is included in the model. Antidirector rights is an index that assesses the shareholder rights, ranging from zero to six and aggregating the following components: (1) the ability to vote by mail; (2) the ability to gain control of shares during the investors' meeting; (3) cumulative voting or proportional representation of minorities in the board of directors is allowed; (4) an oppressed minorities mechanism is in place; (5) the minimum percentage of share capital that entitles a shareholder to call for an extraordinary shareholders' meeting is less than or equal to 10 percent; (6) shareholders have preemptive rights that can only be waived by a shareholders' vote. In column 2, the acquirer and target distance in creditor rights is included in the model. Creditor rights is an index, ranging from zero to four, aggregating the following components of creditor protection: (1) the country imposes restrictions, such as creditors' consent or minimum dividends to file for reorganization; (2) secured creditors are able to gain possession of their security once the reorganization petition has been approved (no automatic stay); (3) secured creditors are ranked first in the distribution of the proceeds that result from the disposition of the assets of a bankrupt firm; (4) the debtor does not retain the administration of its property pending the resolution of the reorganization. In column 3, the acquirer and target distances in law enforcement measures are included, including Efficiency of judicial system, Corruption, Accounting Standards, and Rule of Law. Efficiency of Judicial System is an index, ranging from zero to ten, representing the average of investors' assessments of conditions of the judicial system in each country between 1980-1983. Corruption is an index, ranging from zero to ten, representing the average of investors' assessments of corruption in government in each country between 1982-1995. Accounting Standards is an index created by examining and rating companies' 1990 annual reports on their inclusion or omission of 90 items falling into the seven categories: general information, income statements, balance sheets, funds flow statement, accounting standards, stock data, and special items. Rule of Law is a variable, ranging from zero to ten, that assesses the law and order tradition in a country, based on the average of data from 1982-1995 from International Country Risk. In column 4, the acquirer and target distances in all the above three types of investor protection measures are included in the model. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)			
	1 Shareholder Rights	**2 Creditor Rights**	**3 Law Enforcement**	**4 Investor Protection**
CSRCD	-0.702***	-0.686***	-0.684***	-0.668***
	(0.000)	(0.000)	(0.000)	(0.000)
Antidirector rights	-0.003			0.004
	(0.567)			(0.489)
Creditor rights		-0.005		-0.003
		(0.353)		(0.766)
Efficiency of judicial system			-0.018**	-0.020**
			(0.029)	(0.022)
Corruption			0.006	0.004
			(0.565)	(0.705)
Accounting Standards			-0.004*	-0.004*
			(0.084)	(0.064)
Rule of Law			-0.004	-0.001
			(0.681)	(0.927)
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	220	220	220	220
Adj R-Squared	0.122	0.124	0.137	0.130

Appendix C8. Robustness test on deal synergy for Pre and Post financial crisis

This table presents results of the impact of CSR cultural divergence (*CSRCD*) on synergy returns (VWCAR) for the sub-periods of pre and post 2008 global financial crisis. In columns 1 and 2, the time threshold is the year 2008 around the start of the crisis. The subsamples represent deals announced in 2004-2007 (column 1) and 2008-2012 (column 2) respectively. In columns 3 and 4, the time threshold is the year 2009 around the end of the crisis. The subsamples represent deals announced in 2004-2008 (column 3) and 2009-2012 (column 4) respectively. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses and asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)			
	Pre-2008	**Post-2008**	**Pre-2009**	**Post-2009**
	1	**2**	**3**	**4**
CSRCD	-0.701***	-0.519*	-0.680***	-0.598*
	(0.001)	(0.084)	(0.003)	(0.072)
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	125	95	147	73
Adj R-Squared	0.146	0.054	0.123	0.119

Appendix C9. Sensitivity test on acquirer's FTSE4Good inclusion

This table presents the regression results of our main value creation and deal characteristic tests with the inclusion of the acquirer's FTSE4Good constituent status. The variable FTSE4Good Constituent is a dummy variable that equals to one if the acquirer is a constituent firm of the FTSE4Good index in the year prior to the deal announcement, and zero otherwise. The dependent variables are acquirer CAR (-5, +5), VWCAR (-5, +5), deal completion probability and percentage of stock as the method of payment in the respective columns below. The control variables included in the regressions are the same as in the main tests, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	ACAR(-5, +5)	**VWCAR(-5,+5)**	**Deal Completion**	**Stock Payment**
	OLS	**OLS**	**Logit**	**OLS**
	1	**2**	**3**	**4**
CSRCD	-0.547***	-0.747***	-32.519**	-1.938**
	(0.006)	(0.000)	(0.012)	(0.033)
FTSE4Good Constituent	0.003	0.011	0.991	-0.051
	(0.805)	(0.311)	(0.135)	(0.402)
Controls	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes
N	220	220	220	220
Adj R-sq/Pseudo R-sq	0.067	0.125	0.452	0.355

Appendix C10. Sensitivity test on decomposing CSR cultural divergence

This table presents results of OLS regressions of synergy gains (VWCAR) around M&A announcements on the three subcomponents of CSR cultural divergence (*CSRCD*), namely Environmental (*CSRCD*_E), Social (*CSRCD*_S) and Governance (*CSRCD*_G). Each component of *CSRCD* represents the divergence between the acquirer and the target in that dimension and include all the EIRIS culture data that we have available under that component. The control variables included in the regressions are the same as in the main test, and their coefficients are suppressed for brevity in the respective columns. Detailed definitions of all variables are in Appendix A. P-values based on robust standard errors are reported in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**) or 10% (*) level.

	VWCAR (-5, +5)		
	1	**2**	**3**
CSRCD_E	0.056		
	(0.422)		
CSRCD_S		-0.493***	
		(0.000)	
CSRCD_G			-0.107
			(0.146)
Controls	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
N	220	220	220
Adj R-Squared	0.062	0.133	0.068